

News-Press photos by STEVE MALONE

San Miguel Island's erosion stems from the stripping of vegetation — while plants such as the giant coreopsis on Anacapa Island help inhibit nature's erosive forces.

Santa Barbara Island

Cycle of erosion creates badlands

By Hillary Hauser
News-Press Staff Writer

Bill Halverson looked over the severely eroded area of Santa Barbara Island called the badlands.

"It's a combination of everything," he said. "Mainly, it's a result of bad management."

The badlands is caked and cracked, like a dry riverbed that has not seen water in years. The clay gulleys are a stark contrast to the surrounding green and golden fields of barley and oatgrasses.

Halverson, a full-time plant ecologist working for the National Park Service, is studying ways to return the island to its natural self.

The bad management, he said, came from island stewards who allowed imported rabbits to roam — and multiply.

The rabbits nibbled the native plants to the ground — including the succulent Dudleya and the giant sunflower trees — and by stripping the island of its protective covering, a cycle of erosion began that has not stopped.

The dilemma of rabbits and plants on Santa Barbara Island points up the delicate ecological balances that exist on all the Channel Islands.

In the early days, the islands

were bought, sold, and leased as grazing pastures for cows and sheep. The land was used to one's best advantage.

At Santa Barbara Island, the rabbits were stowaways on ships stopping at the island.

Working with Halverson to reverse the erosion on Santa Barbara Island was Dennis Fenn, a soil expert who heads the Cooperative Park Studies Unit at Texas A&M University.

Fenn said the clay-based soil in the badlands area is so salty that most island vegetation cannot grow in it.

Fenn and Halverson had considered transplanting something to the area that could grow, but they decided against it. The National Park Service has adopted a pure-science approach to the ecological problems of the islands and refrains from interfering with natural processes.

What created all the trouble in the first place was people fooling around with Mother

Nature. Therefore, the two scientists only encourage the natural growth of island plant species.

"One of the best ways to help is to give it time," Halverson said. "We try not to do a lot of manipulating, but instead try to find ways to encourage the natural process."

Halverson considered the dilemma of the badlands. "It's ironic," he said. "Whole national parks have existed just because of erosion — the Grand Canyon, Death Valley, Zion."

Walking away from the area, Halverson pointed out various plant species on the island: the box thorn, a prickly plant that serves as a habitat for the island night lizard; coastal sage, a native plant that occurs on south-facing slopes; halva, a leafy weed that grows in many mainland gardens; and the Dudleya, a succulent rarely seen on the island because it only occurs on the steep

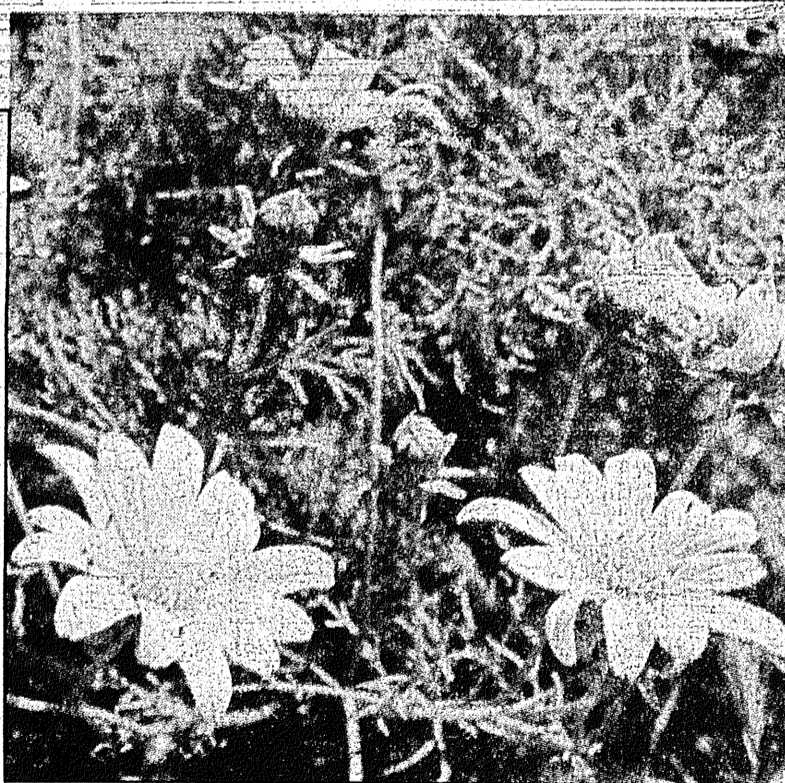
slopes that plunge to the sea. It exists on the steep slopes because the rabbits couldn't reach it here.

The coreopsis — those giant tree-sized sunflowers that coat the hills with bright yellow blossoms in the early spring — are making a comeback after almost being destroyed by the rabbits. The seeds of the plants have been blowing, literally, in the winds, and in some of the canyons, they reach eight feet in height.

The most obvious ecological turnaround on the Channel Islands is probably on San Miguel, where herds of cattle and flocks of sheep once nibbled the native plant life to less than a stubble.

Without a protective vegetative covering, the violent weather that attacks San Miguel encouraged the spread of sand, and in many places, the island looks like an enormous sand dune.

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Bad management blamed for erosion

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On Santa Cruz, the erosive effects of sheep overgrazing can also be seen. Even a green hillside may partially hide the faint outline of a chunk of earth that is about to slide with the next heavy rain.

The introduction of non-native animals to the islands has reduced native plant species, Halverson said. On Santa Cruz, the sheep have affected the coastal sage, pine and chaparral. Pigs introduced to Santa Rosa have damaged the island oak.

On Santa Barbara Island, the foraging of rabbits not only caused havoc to the native plants, but caused the loss of the song sparrow and house finch because of a lack of habitat.

Island animals

Other animals inadvertently or purposefully left on the islands have included feral cats and rats, which preyed on island sea birds. The black rats that hitched a ride to Santa Barbara Island raided bird nests, and are believed responsible for the demise of the deer mice on east Anacapa.

But the most significant impact on the delicate ecology of the Channel Islands has been man himself.

The major declines of sea bird populations — including the brown pelican and two cormorant species — have been

attributed to human disturbance of nesting grounds, as well as the introduction and widespread use of DDT.

Overhunting cited

In the late 1800s and early 1900s, several species of seals and sea lions were near extinction, the result of overhunting. Particularly ravaged were the northern fur seals and northern elephant seals.

Today, the ecological pendulum is swinging back on many of the islands.

With the passage of the Marine Mammal Act of 1972, the seal and sea lion populations have bounced back. In 1980, Museum of Natural History scientists tallied about 60,000 northern elephant seals on San Miguel, and reported that the northern fur seal had also bounced back strongly since 1965.

California sea lions and harbor seals have also doubled, tripled and quadrupled in population.

Comeback for birds

Sea birds are enjoying a comeback, too. With the ban of DDT, the California brown pelican has had healthier breeding seasons on west Anacapa Island, which has been declared off-limits to visitors.

William Ehorn, superintendent of the Channel Islands National Park since it was created in 1980, said that while just

one pelican chick was hatched on Anacapa in 1972, more than 7,000 chicks were born in 1985. Pelicans have begun nesting again on Santa Barbara Island, too, with 1,500 fledglings counted in 1985.

Ehorn said the National Park Service has "suffered in a bad way" regarding scientific work in the islands.

Worry together

"My job was to turn it around and do it right," Ehorn said. "A lot of people thought we'd screw it up. I thought, well, we'll get the people worried about it together and put them on a management team."

In 1974, when Ehorn was appointed superintendent of the Channel Islands National Monument, he gathered together a group of about a dozen island experts. They included Dennis Power and Ralph Philbrick of the Museum of Natural History; Dr. Carey Stanton, owner of the main part of Santa Cruz Island; a representative of the U.S. Navy, which owns San Miguel; and Leopold Starker, a professor of wildlife management at UC Berkeley.

"I said, OK, guys, let's lay out the issues," Ehorn said.

Among the team's recommendations: get rid of the burros on San Miguel, get rid of the feral cats, rats and rabbits on Santa Barbara Island, get rid of the sheep on Santa Cruz, and monitor the tidepools.

Since that meeting, the National Park Service has employed a team of scientists who are taking inventory of the island plants and animals and outlining areas and methods of restoration.

In addition, the Park Service draws from a cooperative studies unit, which supplies researchers for specific projects. Ehorn said his agency has an agreement with eight university systems within the state, which supply students to work in the field.

In the legislation establishing the Channel Islands National Park, there is a mandate for the Park Service to do an inventory of all land and marine resources within the boundaries of the park, Ehorn said.

Ecological health

The Park Service has also been directed to make recommendations to Congress every two years until 1990 about appropriate actions to preserve the ecological health of the park. Chief of Resources Management Frank Ugolini oversees the inventories, studies and corrective actions taken.

"Our foremost aim is protection, not screwing up the quality of the islands," Ehorn said. "The bottom line is that things have been turned around."

Thursday: What does the future hold for the Channel Islands?