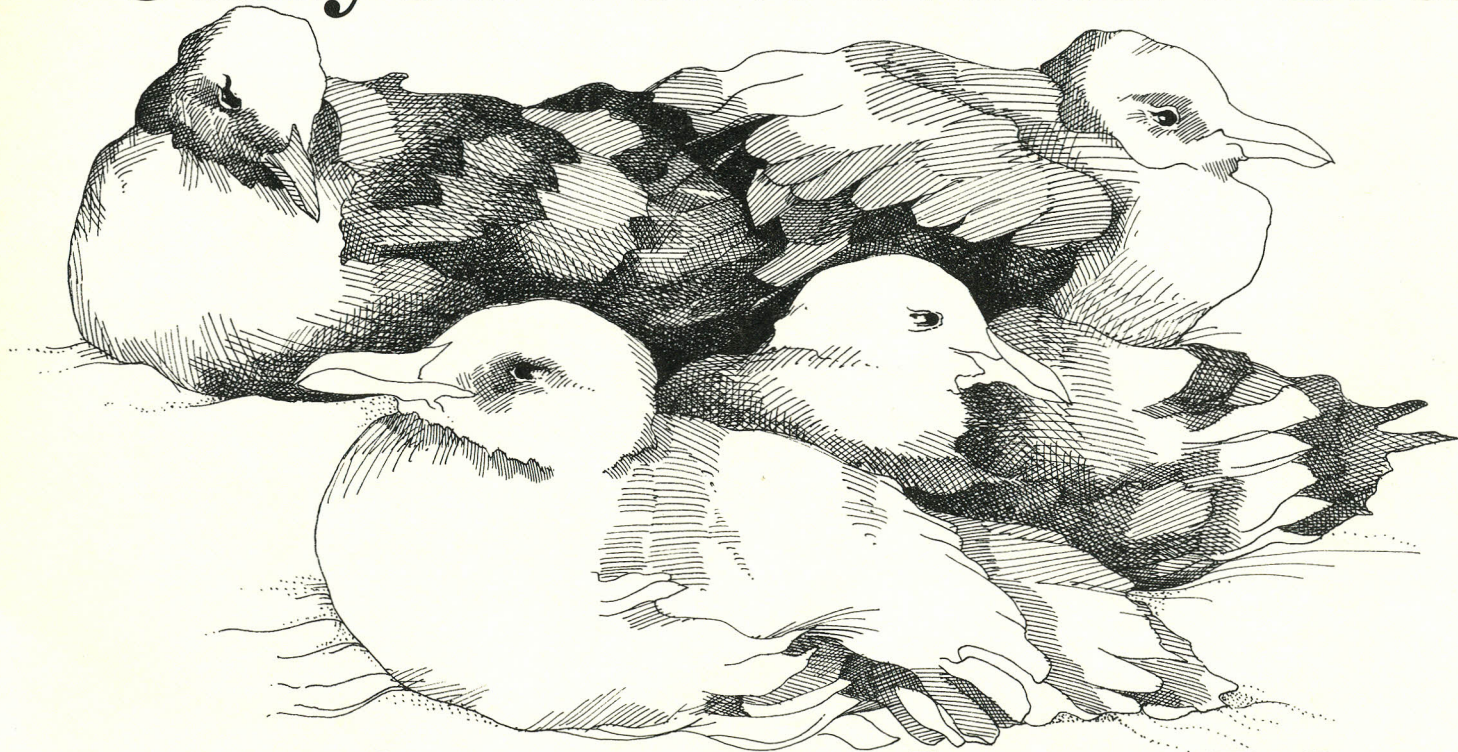


Canyon View Nature Trail



Santa Barbara Island
CHANNEL ISLANDS NATIONAL PARK

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CANYON VIEW NATURE TRAIL

Welcome to Santa Barbara Island and Channel Islands National Park! The Canyon View Nature Trail gives you the opportunity to observe in a short quarter-mile loop-trail a great variety of Santa Barbara Island's scenic and natural resources. Whether you're only going to walk this trail, or hike some of the other island trails, this twenty-minute walk will provide an excellent introduction to what there is to see in the other areas of the island.

The trail takes you by one of the most interesting of the island's canyons. There are picturesque views of the ocean and opportunities to view a unique sea bluff environment. If you have binoculars, bring them along. At certain times of the year bird watching is superb, and besides there is always something you will want to see in more detail.

In order that those who follow may enjoy the island environment in as natural a state as possible, please do not disturb the island's resources. For the protection of the ecologically sensitive canyon and sea cliff areas, and for your own protection, please stay on the trail and obey closure signs. Beware of the cactus close to the trail. Its spines can be painful. If you do get some of the cholla, or "Jumping Cactus" on you, it can be easily removed with a pocket comb.

Ready? Let's start the trail.

1 *Man and Santa Barbara Island*

From before the arrival of Spanish explorers until today, man has had an effect on Santa Barbara Island. Indians, explorers, hunters, shepherders, farmers, soldiers and even national park rangers — all have left evidences of their activities. In some cases, man's impact on Santa Barbara Island has been extensive and is easily seen today. The fields of grains and grasses that stretch toward the peaks are evidence of farming activities which occurred in the early 1900s. Much of the native vegetation was cut and burned and then plowed. Farming was not successful here, probably due to the scarcity of water. Grazing proved more profitable. At one time there were as many as 300 sheep on this island.

Today, primarily you see oats, bromes, and barley, all introduced species, none of which is native or "endemic" to the island.

illustration: grasses



2 *Iceplant*

The fleshy, succulent crystalline iceplant that you see growing in large patches all around you also is not native to Santa Barbara Island. Brought to the island from South Africa in the late 1800s, it was quick to colonize and now has spread over most of the island. Non-native, or “exotic,” plants are aggressive and compete with native vegetation for light, moisture, and nutrients. They can use a wide array of competitive measures, such as releasing toxic substances in the soil, thus reducing biological competition with native species. The crystalline iceplant, for example, has salt concentrated in its tissues and when the plant dies the salt is leached into the soil. Most of the island’s native plants cannot grow in the saline soil and die off, leaving the exotic species to gradually take over.

Some native plants can compete well with the introduced iceplant. *Suaeda*, or sea-blite, tolerates the salty soil. On the west side of the island, where the prevailing winds carry the salt spray inland, sea-blite is the predominant vegetation. Saltbush also tolerates salt well. Although there is a native saltbush on the island, most of what you see is an exotic species from Australia.

illustration: crystalline iceplant



3 *Cave Canyon*

You are looking into one of the major canyons cut into the eastern edge of Santa Barbara Island. This one is named for the small caves found in the rock band on the opposite side of the canyon straight ahead of you. These caves were formed by the action of wave erosion many millions of years ago.

Cave Canyon's array of plant life helps make Santa Barbara Island especially unique. The facing slopes are covered with a dense stand of giant coreopsis. Known also as the "tree-sunflower," this plant, with its associated species including morning glory and wild cucumber, once covered most of the island. This stand remains very healthy. Use your binoculars and see if you can see the white flower of the morning glory or the prickly, green fruit of the wild cucumber vines growing in the head-high coreopsis.

Look toward the ocean and you can see a classical example of the striking difference between the northern and southern exposures. The shaded, lush north-facing slopes are covered with coreopsis while the sun-parched south-facing slopes, on which you are standing, are characterized by prickly pear and cholla cactus.

Cave Canyon offers excellent habitat for several species of rare land snails. Tiny Santa Barbara Island supports the highest diversity of land mollusks of all the Channel Islands with six living species. There is also evidence of three fossil snails. Occasionally you can spot owls, American kestrels, and many interesting migrating bird species that seek food and shelter here. *Please* do not go down into the canyon. The plant and animal life here are very fragile and are easily susceptible to disturbance by man. These plants and animals depend upon the protection and the respect you give them for their continued well-being.

illustration: prickly pear and blossoms



4 *Lichens and Lizards*

The multi-colored patches on this rock are hardy lichens, algae and fungus growing in a symbiotic association — that is, each plant depends on the other for survival. In this case, the algae's photosynthetic ability produces food for both plants, while the fungus holds water in its cell walls for the benefit of both. Colonies of this versatile plant are found growing on bare rock from sea level to high mountain peaks. The wide array of colors on the rock is evidence of the great variety of species. The lichens are important because they secrete acids which break down rocks so as to produce soil which sustains the higher forms of plant life.

Undisturbed rocks provide shelter for the island night lizard. It is a species found only on Santa Barbara Island, the associated Sutil Island, and San Nicolas and San Clemente Islands. Scientists believe that between 550 to 700 individuals live on Santa Barbara Island. Their population is small as females do not mature sexually until their third to fourth year and reproduce only every other year. Island night lizards may not return to areas where rocks have been overturned. That is one reason why it is important for you to stay on designated trails when hiking on Santa Barbara Island.

illustration: island night lizard



5 *The Sea*

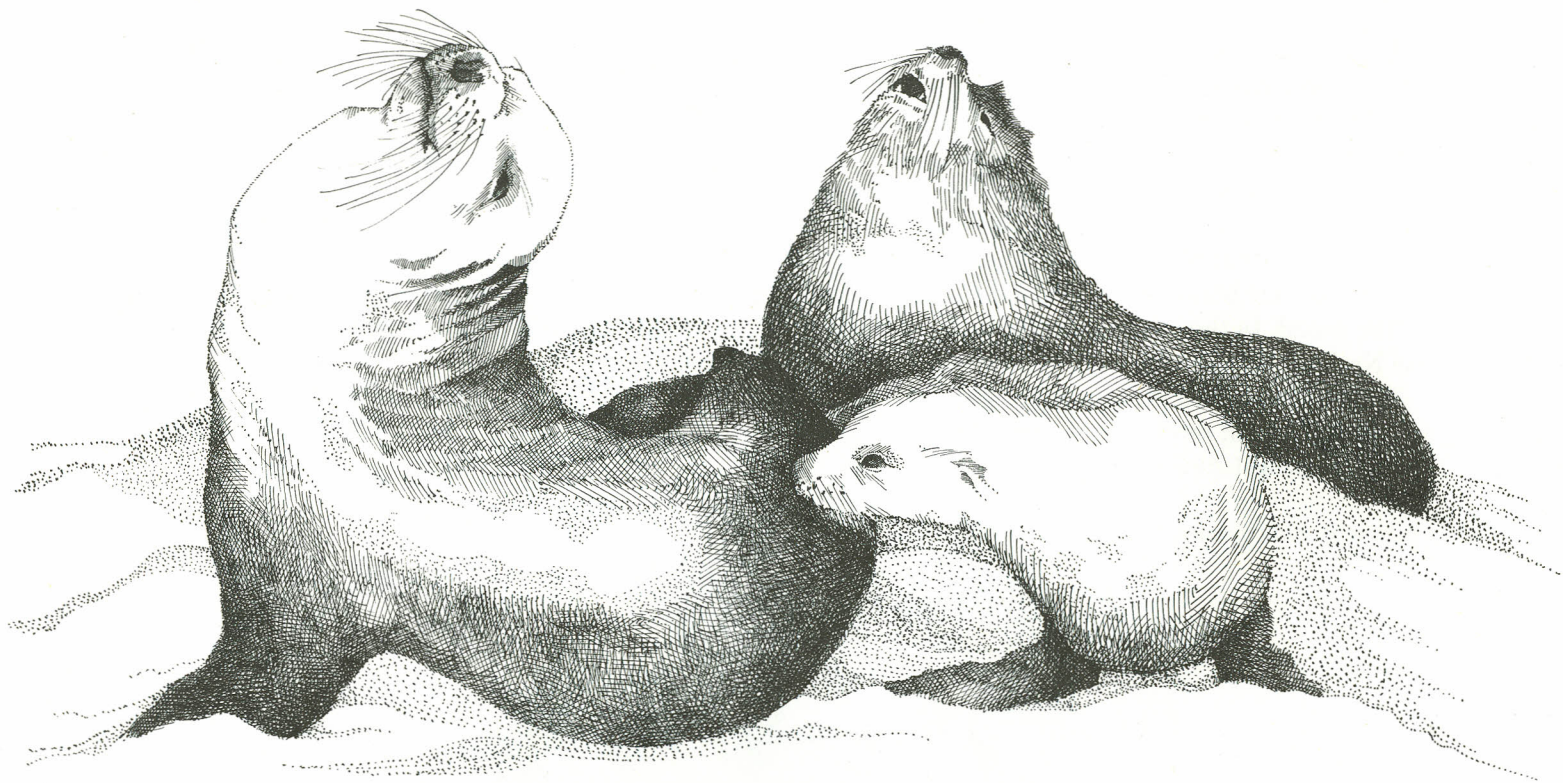
Santa Barbara Island is truly an island of the sea. You are at an excellent vantage point to pause and view the island's sea sculptured cliffs and the waters that fashioned them. Due to varying wind and waves, lighting and cloud patterns, the ocean surface is constantly changing. Listen! Do you hear the rumble of the waves crashing into sea caves? Can you hear the barking sea lions? Look and see if you can spot a California sea lion, or perhaps an elephant seal, swimming. These marine mammals commonly "haul out" on the rocky beaches of Santa Barbara Island. Here they find an abundant supply of fish to feed on in the kelp beds that surround the island.

Giant kelp is the fastest growing plant in the world. Under ideal conditions, this long leafy plant grows two feet a day. These underwater forests grow on the rocky reefs that extend out from the island's shoreline to depths of 130 feet. The kelp beds are particularly important for the food and shelter they provide to many forms of marine life.

Sea birds that nest of Santa Barbara Island, as well as those that live here for shorter periods of time, depend on the sea for their food. Frequently you can observe gulls, pelicans, and cormorants feeding in the surrounding waters and kelp beds.

The terrestrial environment of Santa Barbara Island is closely interrelated with the marine environment. The island receives about 12 inches of rainfall annually. The sea provides the moisture that nourishes the island's plants and animals. The rain, morning dew, and humid fogs, which moisten the island, all come from the sea. Small animals depend on obtaining water from the plants for their existence, as there is no fresh water on the island.

illustration: California sea lion



6 *Giant Coreopsis*

At one time, the giant coreopsis, or tree sunflower, covered much of Santa Barbara Island. During the winter and early spring the bright yellow flowers of this unique plant were visible for miles, lighting up the island like a torch. Except for sparse, scattered stands on the southern California coast, the giant coreopsis grows only on the Channel Islands.

Man's impact has reduced the coreopsis on Santa Barbara Island to small stands. Farming and burning have been very detrimental as has competition by exotic plants, but non-native rabbits have been a major culprit in decimating the coreopsis stands. Introduced by farmers and servicemen, the rabbits burrow underneath the plants and gnaw the roots, bark and branches. These animals have no natural predators on the island. In the 1950s their population reached the thousands before control measures were taken by the National Park Service and U.S. Fish and Wildlife Service.

The National Park Service hopes that by reducing these adverse impacts the giant coreopsis and other native plants will recolonize the island to their former extent and that Santa Barbara Island will return to its more natural state.

illustration: giant coreopsis



7 *Pelican Nests*

Look down at the gray sticks on the steep slope below you. These are the remnants of brown pelican nests. The nests have remained intact since before 1964. Until recently, on the west coast of the United States, the brown pelicans nested only on West Anacapa Island. However, in early 1980 a small colony did nest once again on Santa Barbara Island's steep coastal bluffs.

In the late 1960s and early 1970s, the pelicans nearly became extinct as a breeding species on the west coast of the United States. Eggshell thinning, attributed to high levels of DDT in the food chain, was apparently the cause of the population decline. Since DDT was banned the number of pelicans has been increasing. Fluctuations in the pelican populations are also closely related to the size of the local anchovy population. Continued protection of rookeries and sound management of commercial fishing in the waters of southern California are needed if this stately bird is to survive.

Santa Barbara Island is the second most important seabird nesting island of the Channel Islands. Western gulls nest on the interior plateaus and three species of cormorants nest on the island's steep cliffs. Cassin's auklets nest beneath rocky ledges and in burrows on steep hillsides. Xantus' murrelets nest almost anywhere near steep hillsides and cliffs. This small bird often seeks protection in the "silver lace" — look for the plant with the lacy silver green leaves below you. Their population on Santa Barbara Island numbers a few thousand birds, and is probably the largest known breeding population of this species in the world. When only 48 hours old, the tiny murrelet chicks instinctively leave their nests in the middle of the night and tumble down the cliffs into the crashing surf. There, they meet their parents and swim out to sea to spend the rest of their lives, returning to land only during the nesting season.

illustration: brown pelican



8 *Native Americans*

Standing here on a clear day you can see Santa Catalina Island and the mainland. Imagine traveling the long distances between the islands and mainland in a canoe! Chumash Indians of the northern Channel Islands as well as the Gabrieliños of the southern islands did just that. Native Americans constructed large seaworthy plank canoes made water tight with tar from natural seeps. The Indians carried trade items between the islands and mainland villages. The larger islands such as Santa Cruz and Santa Rosa had permanent settlements on them. Santa Barbara Island, probably because of its lack of fresh water, was not permanently occupied. The island may have been used seasonally as a stopping off point between other islands. As evidence of their visits, the Indians left mounds of shell debris which archaeologists call "middens." There are several visible at various locations on the island.

illustration: shell pieces

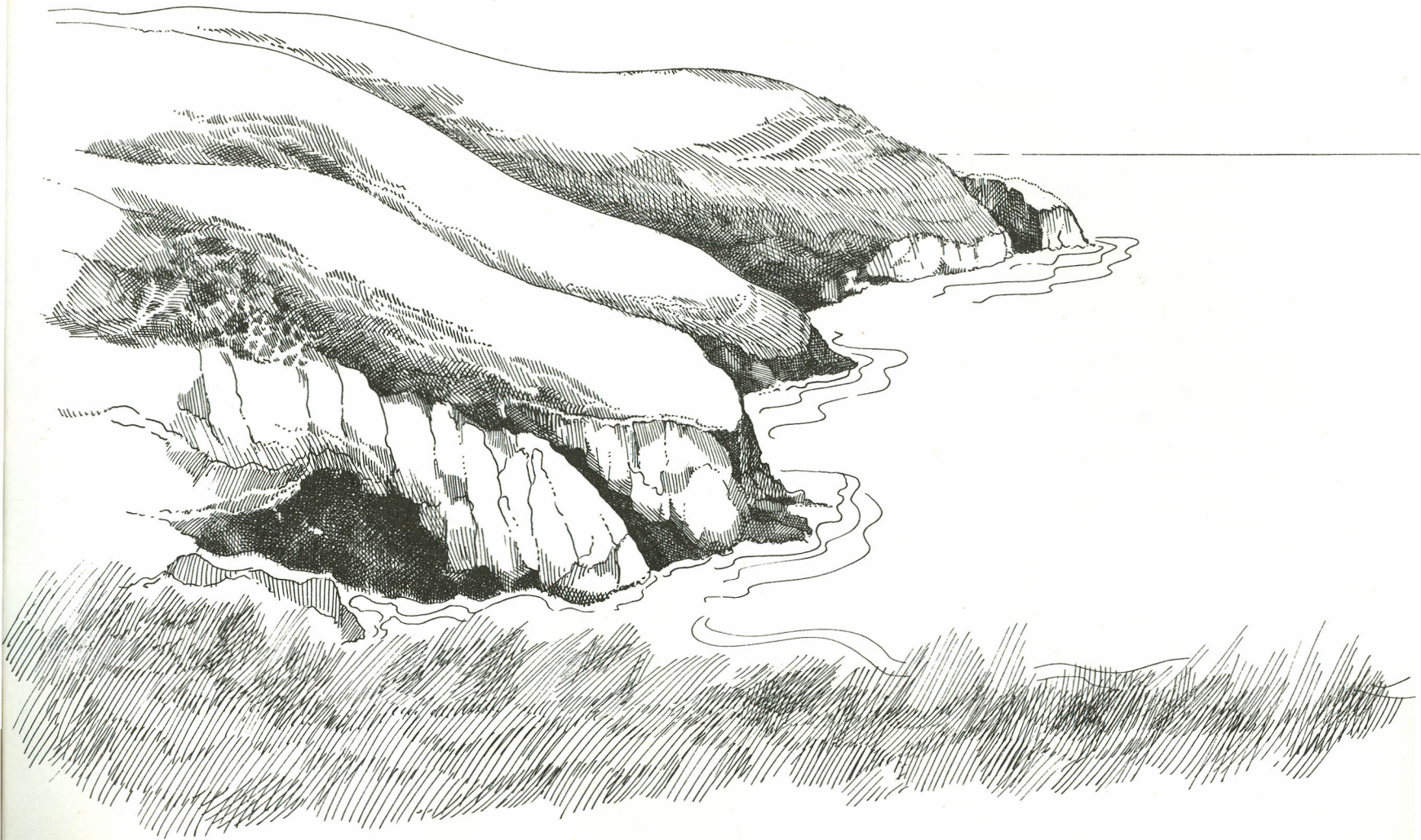


9 *Island Geology*

Most geologists believe that Santa Barbara Island was formed millions of years ago by underwater volcanic action. Gradually, pressures beneath the earth's surface uplifted the island. The flatter portions of the island are ancient marine terraces. These terraces are the result of wave erosion during successive stages of uplifting. Although the island rock is primarily volcanic, the layers of sand and marine sediments that accumulated between volcanic eruptions indicate that island formation was discontinuous.

The sea is continually wearing Santa Barbara Island away. Look north at Arch Point to see where the ocean has completely eroded through a spit of land. Until approximately twenty years ago, water surged through this arch. Erosion has recently caused the lower portion of it to cave in. How long do you think it will be before the entire point is worn away by the ocean? How long do you think it will be before the entire island succumbs to the pounding waves? If you are here during stormy weather you can truly appreciate the force of the waves as they crash against the cliffs. Even during calmer weather you can hear and feel the rumbling of the sea caves as the surge pushes back into them.

illustration: cave canyon trail view



10 *Developed Area*

Historical human occupation and use of the islands have resulted in disturbance of the resources through cultivation, construction and grazing. In 1938, Santa Barbara Island was made part of Channel Islands National Monument. Today the National Park Service manages and preserves the unique cultural and natural resources of all the islands comprising Channel Islands National Park. The Service seeks to promote the recovery of island vegetation through natural succession over time. Buildings and physical improvements on the islands are to be kept to a minimum, thus keeping the island in as natural a state as possible. The campground and visitor center area rest on the site of the farm buildings which have long since been removed. During World War II, the United States Navy constructed these structures to house men and equipment. During the war, this facility served as an early warning outpost; during the 1960s, it served as a missile tracking station. Concrete pads at various places on the island, as well as the Quonset hut, are reminders of the Navy's presence. Today, the Quonset hut serves as the Ranger Station and Visitor Center.

The solar panels near the ranger residence provide electricity and hot water for the ranger residence and visitor center. These panels are designed to make facilities as self-sufficient as possible.

We hope you have enjoyed this nature trail. Your cooperation in helping maintain and protect the island resources is greatly appreciated. So that others may enjoy this information, we invite you to return this booklet to the trail-guide dispenser.

There are other trails for you to explore on Santa Barbara Island. The island ranger can provide you with more information.

illustration: ranger residence

