20 Just beyond the end of the trail Ballast Point stretches out into the harbor. Nuclear-powered submarines are now docked where Cabrillo's small ships anchored after 3 months at sea in 1542. Along the shore, San Diego's skyline frames the calm, blue water that has served as a haven for centuries.

The trail ends here – **DO NOT GO BEYOND THIS POINT. NAVY PROPERTY IS CLOSED.** To return to the lighthouse, you must retrace your steps, returning back up along the same trail. Please remember that these cliffs are dangerous, and that short-cutting up the hills will cause erosion problems.

Common Plants along the Bayside Trail

Lichens
Mosses
Iceplant
Snake Cholla
Prickly Pear
Buckwheat
Four O'Clock
Tree Tobacco
Indian Paintbrush
Black Sage
Toyon
Deerweed
Bushy Yate (Eucalyptus)
Sugar Gum (Eucalyptus)
Coast Ceanothus
Laurel Sumac
Lemonade Berry
Wild Cucumber
California Sage
Chaparral Broom
Black-eyed Susan
Golden Yarrow
Mohave Yucca

Common Birds and Animals along the Bayside Trail*

California Striped Racer
Southern Pacific Rattlesnake
San Diego Gopher Snake
Great Basin Fence Lizard
California Side-blotched Lizard
San Diego Alligator Lizard
Great Blue Heron
Brown Pelican
Anna's Hummingbird
Scrub Jay
Rufous-sided Towhee
Snowy Egret
Forster's Tern
Western Gull
Wrentit
California Ground Squirrel
Brush Rabbit
Gray Fox

*A comprehensive Bird Check-List may be purchased at the Visitor Center. The list of species which frequent Point Loma is quite long.

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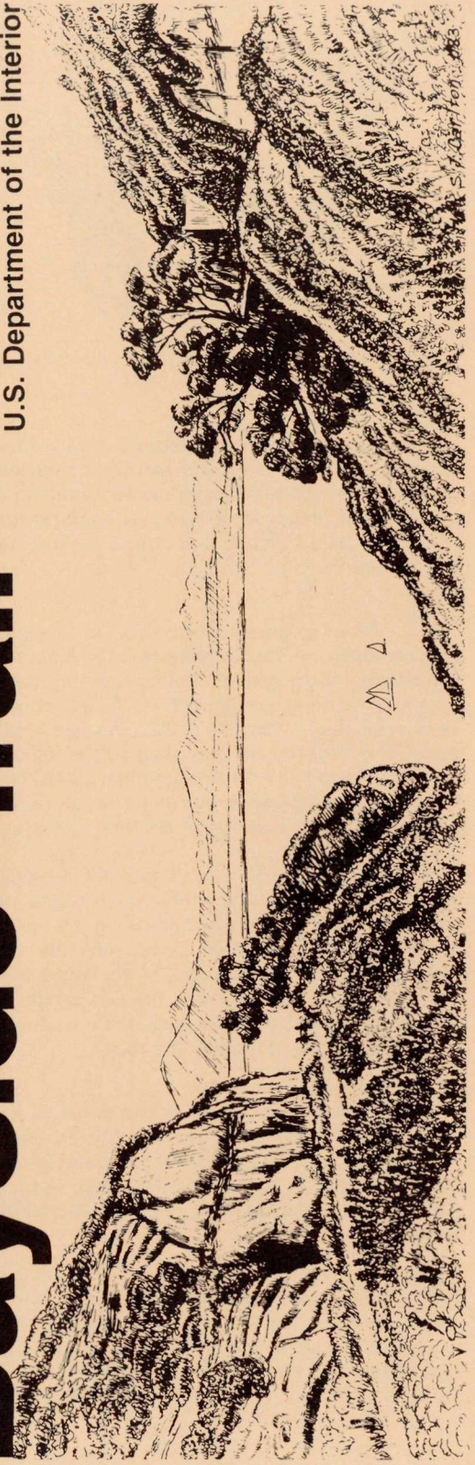
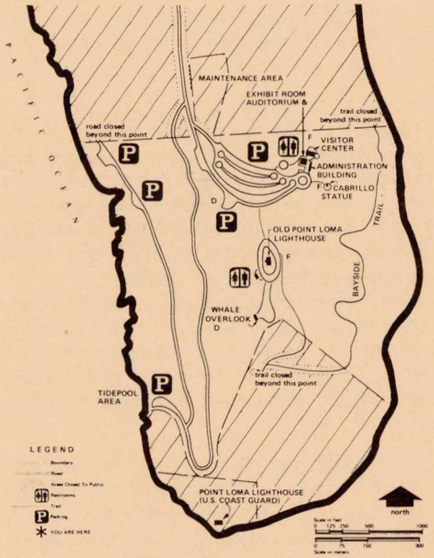
Bayside Trail



Cabrillo National Monument was set aside in 1913 to commemorate the European discovery of the west coast of what is now the United States by Juan Rodriquez Cabrillo. The original monument of ¼ acre included only the historic Old Point Loma Lighthouse and the land encircling it. Today the park encompasses 144 acres near the tip of Point Loma. Within its boundaries are a number of the plant and animal communities native to San Diego's Mediterranean climate.

The Bayside Trail winds through the heart of a coastal chaparral life zone, following an old military road. The moderate elevation change may be stressful for hikers with heart or respiratory problems. As in any natural area, there are environmental hazards to watch for, including toxic plants and animals and fragile cliff faces. Warning signs and rest areas are provided, but your safety is ultimately your responsibility. There are no restrooms and no access to the beach from this trail. Please don't pick or remove any plant life or other trail features, and remember to deposit all litter in the trash cans along the trail.



TOTAL LENGTH: 2 miles (3.2 km) round-trip from the lighthouse

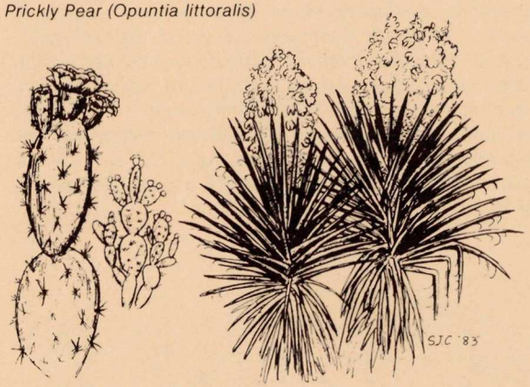
HIKING TIME: 1 to 2 hours

TRAIL ROUTE: The trail follows the old asphalt-surfaced roadway and is marked. Leaving the designated walking area exposes you to safety hazards and damages the delicate chaparral life. Please remain on the trail and obey U.S. Navy and National Park Service "Closed Area" signs. To return, you will retrace your steps, following the same trail back up.

1 Along the trail, you'll see many of the plants and animals typical of a coastal chaparral community. Look for changes in the species which dominate different sections of the trailside. Even within a small area, subtle differences in exposure to light and moisture caused by changes in elevation and slope of the land surface will favor some life forms at the expense of others. Clues to the geologic processes which shaped Point Loma are revealed in the narrow, steep hillsides which form part of a major fault zone along the south side.

You'll also encounter evidence of the imprint of humans on Point Loma, which served as a focal point for human activities for many centuries. The earliest residents, called Diegueño Indians by archeologists, collected foods and manufacturing supplies. Today their hunting and gathering grounds have become a Federal Reservation shared by the Navy, the Coast Guard, the Veteran's Administration, the San Diego Waste Water Treatment Plant, and the National Park Service.

Prickly Pear (Opuntia littoralis)



Mohave Yucca (Yucca schidigera)

2 Prickly pear cactus and yucca were important food and material resources for Diegueño. Edible parts of the prickly pear include the fruit and the moisture-laden pads, which can be eaten when the spines are removed. Yucca blades provide a strong, pliable fiber which was woven into cordage, baskets, and sandals. Both the fruit and the root (of some species) are edible. Yucca root also provides soap.

3 Below you a grove of eucalyptus trees has adapted to the moisture-rich canyon. Eucalyptus is an exotic species, introduced to the United States from Australia in the late 1800's. Intended for use as railroad ties, the wood split too easily when dry and was never commercially successful. Since its introduction, the adaptable plant has spread throughout warm, dry climate zones in the western states.

4 Each spring and early summer, when moisture is abundant, the muted colors of the chaparral plant communities are deepened by the rich green of new foliage and the vivid display of delicate flowers. Yellow black-eyed-Susans cover the hillsides. As the weather becomes hot and dry the flowers turn to seed and the plant becomes dormant. Other prominent blooms include buckwheat, brittlebrush, bladderpod, monkeyflower, and Indian paintbrush.

5 The spindly, swaying branches tipped with soft, green leaves belong to tree tobacco *(Nicotiana gluaca)*, which can grow to 15 feet. Greenish-yellow blossoms 2 to 3 inches long appear in season. The leaves contain the alkaloid anabasine, which is poisonous. Although tree tobacco originated in temperate South America, it has been used for smoking for perhaps more than 2,000 years by California Indians. Pipes of stone and clay, similar to those Indians were using for smoking tobacco when the Europeans arrived, are found in archeological sites throughout the state. Many Indian groups, especially those in Northern California, cultivated their tobacco. Special plots were chosen, the brush was burned, seeds were planted in the ashes, and the plot was tended by weeding and thinning. This is remarkable in view of the fact that these cultures did not cultivate food plants. The steamed leaves may be used as a poultice to relieve a sore throat, or to make a vapor for easing stiff, painful joints.

California Buckwheat (Eriogonum fasciculatum)

6 Buckwheat flowers color the hillsides from season to season. In the spring the tiny blossoms are white tinged with pink, but as summer wanes to fall the flowers dry out to a deep rust. Diegueño used this plant for medicine, making curative teas from the flowers. California buckwheat is found throughout the southern portion of the state, except in the extremes of mountains and deserts. The leaves may be smooth or densely-covered with short hairs. The plant is a favorite for bees.

7 The Army housed a portion of their intricate coastal defense system on Point Loma. Built during World Wars I and II, cannons, mortars, and observation bunkers were constructed in a protective ring around the harbor. This concrete shelter held an electrical outlet for a large, mobile searchlight which was a part of that system. From the tip of Zuñiga jetty, which you can see stretching from North Island southward toward the ocean, a submarine net anchored to Point Loma could be raised to prevent the entry of enemy underwater craft.

8 Here on Billygoat Point the Army concealed the large searchlight referred to at stop #7. When it was needed the soldiers wheeled it out on steel tracks, most of which have been removed. From here it could sweep the harbor entrance and illuminate approaching ships and aircraft. Today the searchlight bunker is shaded by a eucalyptus tree.

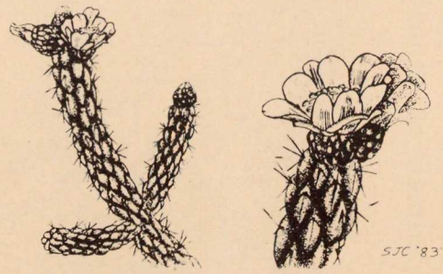
About 20 feet to the left of the bunker a large vertical crack displays the action of faulting in this hillside. As you proceed to the next few stops, watch the cliff directly across the canyon. A section of the same fault system is revealed where earth movement has displaced the rock layers.

9 The bare sandstone above you was once covered with lichens. These primitive life forms are living cooperatives made up of algae and fungi. A lichen community produces a weak acid that slowly weathers rocks as a necessary first step in the formation of soil. Vandals have scraped and scratched the rock face and unfortunately removed most of the lichens.

Ferns and other moisture-loving plants dominate this side of the canyon. Since it faces north it receives less sunlight than the opposite rock wall, and loses less moisture through evaporation. Along the south-facing cliff face plants which prefer drier soils predominate.

10 The large root piercing the cliff followed moisture through a crack in the sandstone. The porous sandstone acts like a sponge, retaining water close to the surface along this area of northern exposure. As the root grows, seeking moisture, it is forcing the rock apart and speeding erosion. Behind you, in the opposite cliff face, you can see traces of water and erosion in the curving hollows that perforate the sandstone.

11 What looks like a jail is another part of the old Army coastal defense system. Buildings like these housed generators which produced electricity for the bunkers, searchlights, and other installations. New technologies such as the development of long-range bombers and radar were replacing the coastal batteries by the end of World War II. Other elements of the defense system may be seen near the Old Point Loma Lighthouse.



Snake Cholla (Opuntia parryi serpentina)

12 Cholla cactus is scattered amidst the shrubs covering these slopes. Look for short branches with sharp, silvery spines. Cholla is also called "Jumping Cactus" because the branches come apart easily at the joints, sticking to pants, shoes, and people, almost as if they had jumped at you.

13 Clues to geological events are revealed in the cliff face along this section of the trail. The massive golden sandstone and conglomerate unit is part of the Cabrillo Formation, a marine deposit 65 to 70 million years old. The formation was deposited below wave base on a steep slope. The large, round gray plug is a mudstone clast, probably eroded as a boulder from the older Point Loma Formation, also a sedimentary unit. You can see the Point Loma Formation exposed in the tidepool area of the monument.

A few steps down the trail, look for a break in the reddish-brown, horizontal bands which streak the sandstone. This indicates a major strand of the fault system which helped to form Point Loma. After the rock units were formed, rocks to the west of the fault system rose to create the peninsula. Later, the sea carved terraces and steepened the slopes through the erosional force of waves ceaselessly pounding the rock.

14 The western gull nests and raises its young on the sheer cliffs below. Out over the bay, brown pelicans soar gracefully looking for food in the water as they have done for centuries. Take the time to watch and you might see pelicans or terns diving for fish, or great blue herons flying by.

15 Close your eyes and take a deep breath. Can you smell the pungent fragrance of the black sage? Behind you, on the opposite side of the trail, you'll find California sage, which has a slightly different aroma. Plants like these exude a rich odor just after rain, as the leaves are drying. →

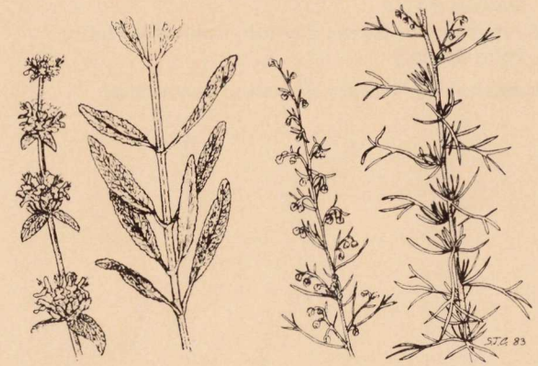
16 Known also as California holly and Christmas berry, toyon *(Heteromeles arbutifolia)* stays green throughout the year. A common shrub or small tree on brushy slopes and canyons throughout California, toyon produces bright scarlet berries which were gathered by many Indian groups. Rarely eaten raw, they were cooked either by roasting bunches of berries over hot coals or by tossing them in a cooking basket filled with hot pebbles or wood coals. Slight cooking helps to mellow the somewhat bitter taste of the fresh fruit. Some Indians made a tea from the bark and leaves for curing stomachache.

17 Stiff, leathery leaves help the lemonade berry *(Rhus integrifolia)* retain its moisture and deep green color during the dry seasons of summer and fall. The tight bunches of pink blossoms which appear in the spring mature by midsummer into red berries coated with a sweet-sour, sticky substance. Indians and early European settlers made "cider" by combining the berries with water.

18 This narrow, steep-walled canyon is a natural catchbasin for water rolling off of the cliffs during a rainstorm. The force of the rushing water moves tree limbs, soil, and other debris downslope until it hits a pocket like this one. Collected moisture and organic debris provide a nourishing environment for plant life, which in turn helps hold the soil along the slope as the waters flow past.

19 Chaparral broom *(Baccharis sarothroides)* favors sandy washes in San Diego, where it is frequent. Nearly leafless at time of flowering, the broomlike plants can grow to 6 feet. A close relative, coyote bush *(Baccharis pilularis)* grows in the same drainage just down the trail. Compared to the narrow, sparse leaves of the taller broom plant, coyote bush produces a luxuriant growth of long, serrated leaves.

California Sage (Artemisia californica)



Black Sage (Salvia mellifera)