

The South Coast Botanic Garden: From Landfill to Jewel of the Peninsula

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Lying at the southwestern edge of the Los Angeles basin is the Palos Verdes Peninsula, an “island” of land with spectacular views of the Pacific Ocean and the Santa Monica Bay to the west. The geologic history of the peninsula goes back to the late Pliocene, when the sea floor was uplifted, and continues into the early Pleistocene, when the peninsula emerged as an island. By the late Pleistocene, enough erosion had occurred to cause this nine-mile-long by five-mile-wide landmass to join with the mainland. Today, it is still possible to view from a distance the old marine terraces, thirteen in all, rising to an elevation of 1,300 feet.

Evidence of its oceanic origins are found in numerous marine fossil deposits, ranging from shellfish to whales. Along the northern and eastern margins of the peninsula runs a continuous 500-foot-thick belt of nearly white diatomite, representing the ancient deposits of marine diatoms. These single-celled organisms create a protective outer layer made of silica that, upon the death of the organism, settles to the bottom of the ocean. Over millions of years, with the addition of heat and compression, diatomaceous earth is formed.

A Resource Exploited

The Dicalite Company began mining these deposits in the early 1900s, with the removal of diatomaceous earth, sand, and gravel. In 1944, the Great Lakes Carbon Corporation purchased



Some of the last deposits of refuse in the landfill that became the South Coast Botanic Garden, circa 1965. Photographs courtesy La County Arboretum & Botanical Garden Library, except as noted

the mining rights and began open-pit mining, which continued until the deposits were depleted in 1956. The diatomaceous ore was used in swimming pool filters, as a mild abrasive in toothpaste, and in the control of insect pests.

The cessation of mining left behind massive pits that were turned into a sanitary landfill site for mostly residential waste. The Los Angeles County Sanitation District operated the site

Frances Young in the first Dahlia Garden planted in 1962 at the South Coast Botanic Garden



The new stream at the South Coast Botanic Garden in 1976



from 1957 through 1965. By 1966, the present eighty-seven acres of land had been filled with three-and-a-half million tons of trash mixed with local soil.

A Garden Emerges

In 1959, Frances Young, a district director of California Garden Clubs & Horticulture Societies,



The man-made lake at the South Coast Botanic Garden in 1976



The steps to the original administration complex after settling of the soil due to continual decomposition of buried trash in the former landfill site



Irrigation pipes arching out of the ground, as a result of the shifting and settling soils at the South Coast Botanic Garden

began to promote the landfill as a regional botanic garden. At the beginning of the 1960s ecology movement, there was much interest in recycling and revegetation. Through her per-

suasive skills, she enlisted the support of the Los Angeles County Department of Arboreta and Botanic Gardens, and particularly Dr William S Stewart, then director of the Los

Angeles State & County Arboretum in Arcadia. On March 1, 1960, the county's board of supervisors officially designated "Landfill No. 1" as the South Coast Botanic Garden, and, on April 20, the Garden was dedicated. An estimated 200 people were in attendance at the event, which included the planting of the first trees. The South Coast Botanic Garden Foundation received its charter a year later with Frances Young as founding president. Donald P Woolley was appointed superintendent, and Edward Hartnagel assistant superintendent of the new garden.

Woolley was responsible for landscaping the new garden. Topsoil was imported, irrigation lines installed, and roadways established. In 1961, the first of 40,000 plants were set in the ground, many donated by the Los Angeles State & County Arboretum. For many plants, climatic conditions were more favorable at the South Coast Botanic Garden than at the Arboretum in Arcadia, where summers are hotter and drier, and winters are cooler. Plants were accessioned and located on a map with grid lines to record the exact placement of specimens. The first plantings were on the eastern slope paralleling Rolling Hills Road; by 1962, the new entrance gate was constructed on Rolling Hills Road, thus eliminating the need to travel through the dump site off of Crenshaw Boulevard. A Dahlia Trial Garden, installed by the Inglewood Dahlia Society, produced a wealth of blossoms that first year.

By May 1963, an information center/club house was constructed (of donated Filon and wood) through the efforts of volunteers and staff working together over seven weekends. The second annual flower show (Fiesta de Flores) attracted approximately 3,100 visitors to the garden, with tours offered through the collections. The new center was used for garden shows, lectures, and classes, receptions and horticultural meetings; youth education classes commenced in 1966. By 1964, the construction of the new administrative offices and maintenance shops was completed.

The development of the garden progressed in stages as the Sanitation District gradually prepared each section of the land and handed it over to the botanic garden. In 1963, an addi-

tional 4.5 acres were added, with another twelve acres incorporated in the next four years. In 1967, a weather station and two comfort stations were completed. In 1969, a 2.5-acre lake was added in the center of the garden; it soon began attracting wildlife. The water flowed out of the lake and down a cascade into a 1,000-foot-long stream, whereupon it was recycled back to the lake. Finally, in 1976, an administration building complex and the Frances Young Hall of Horticulture were dedicated on the northwestern (Crenshaw Boulevard) side of the garden, accompanied by a new entrance and a greatly expanded parking lot for visitors.

Challenges of a Landfill

Placing the garden on a landfill led to numerous challenges. As the trash below began to decompose, the land began to settle, causing dips to form on roads and trails. Plumbing at the two comfort stations began to break and needed constant attention; eventually, the comfort stations tilted so much that they were completely removed. Irrigation pipes bent and often broke with the shifting land. The parking area associated with the original entrance and administrative offices began to settle, and new asphalt was required.

The intense heat generated as a by-product of decomposition burned the roots of trees and shrubs, leading to much devastation among the early plantings. Pockets of out-gassing methane, carbon dioxide, and sulfur caused "hot spots" to form where nothing would grow. Sometimes, plant roots would get into the trash itself;

If You Should Like to Visit

The South Coast Botanic Garden is operated by the Los Angeles County Department of Parks and Recreation in conjunction with the South Coast Botanic Garden Foundation. It is located at 26300 Crenshaw Blvd, Palos Verdes Peninsula, CA 90274. For more information call 310/544-6815 or visit www.southcoastbotanicgarden.org.

in one instance, roots grew inside a tire. The soil used to cap the trash deposits is generally low in nutrients and acts much like clay, expanding when wet and cracking during the summer dry season. This puts additional stress on root systems and allows for new gaps to vent gases. As time progressed, new plants were accessioned to replace those lost, and the rate of subsidence began to slow, resulting in greater stability of the land.

Fifty Years Later

As the eighty-seven-acre garden approaches its fiftieth anniversary, it has evolved into a truly unique botanic garden. The issues of ground settling and out-gassing are still present but much less evident. Visitors to the garden now see a vast and highly diverse collection of plants in a series of specialty gardens.

Leading from the entrance is a promenade with an ever-changing display of seasonal annuals. The Rose Garden, Cactus Garden, Mediterranean Garden, Garden for the Senses, Palm Collection, and Banyan Forest are among the most popular gardens, all located relatively close to the entrance. Visitors can use their cell phones to access interpretive talks that touch on the highlights of each collection. The garden remains a work-in-progress, with a new Grass Garden and two expansions of the Cactus Garden nearing completion. Farther from the main entrance are fine plantings of acacia, eucalyptus, pine, juniper, cypress, melaleuca, magnolia, crape myrtle, and bottlebrush for the more energetic visitors to discover. A mile-long Tram Road circles the site, with numerous interior roads and trails to explore. Most of the trees and shrubs are labeled with information on the scientific name, common name, plant family, and world distribution—a valuable resource for learning about plants suitable for horticultural use in coastal Southern California.

Near the administrative complex is a Japanese Garden, complete with koi pond and cycad collection. Adjacent is a recently remodeled Fuchsia Garden, with both species and cultivars flowering in profusion. The original

Dahlia Garden has also been redesigned and expanded near the Volunteer Garden, one of the first gardens established at South Coast Botanic Garden. Entirely maintained by community members who come in twice a week to weed, water, plant, and trim, the Volunteer Garden features annuals, bulbs, perennials, and seasonal vegetables.

The Children's Garden features a dollhouse and an arching bridge over a small pond. This delightful little garden has a nursery rhyme theme linked to plants in the stories. Recently, docents expanded the garden to include an outdoor classroom. This new Children's Discovery Garden offers programs for preschoolers, with monthly events teaching children about nature through story time, art projects, potting activities, science topics, and tours. Docent-led tours for older school children are popular as well.

Serving Its Community

The South Coast Botanic Garden serves the community in many ways. The Upper Events Meadow is a favorite for weddings, receptions, and concerts. The Frances Young Hall and adjacent classrooms are used for plant shows, lectures, seminars, workshops, science fairs, plant club meetings, and classes. Twice a year, the Plant Propagation Workshop group stages a fundraising sale of plants propagated by the volunteers. The public can purchase plants suitable for the local climate and often not generally available in the nursery trade. Two bird walks are conducted monthly, and more occur in conjunction with the ongoing Bird Lecture classes at the garden. With abundant mature vegetation and two inviting fountains for drinking or bathing, bird life in the garden is plentiful. Those who enjoy photography will find a wealth of opportunities to get that perfect shot of plants and wildlife.

This garden is actively promoting the use of water-saving vegetation in a time of increasing water shortages. For those interested in seeing the general growth habits of California native plants and how they may be used in the landscape, the "what's in flower" section of the garden's website highlights (in green) native



Entrance to the new Children's Discovery Garden

Tabebuia chrysostricha in full bloom along the Promenade



The Upper Events Meadow, with a carpet of snow-in-summer (*Cerastium tomentosum*)

plants found in the Mediterranean Garden and elsewhere on the grounds.

The South Coast Botanic Garden has been a

pioneer in landfill recycling and development, while promoting wildlife, horticultural, and educational uses. It is also a beautiful garden. 🌿