



original painting by Ken Goldman for SCUPC
prints available at godamr.com

Land Sculpted by Sky and Sea

At First Glance...

Ocean vistas and sculpted sandstone cliffs greet visitors at this unique City of San Diego Regional Park on the western shoreline of the Point Loma Peninsula. Sea mist laden breezes calm the senses along the 1.5 mile cliffside trail. The dynamic mix of air, land, and sea offers opportunities to observe, learn, experience, and enjoy nature.

Surfers slice arcs across the breaking waves. Painters and photographers capture their favorite scenes. Bird watchers raise their binoculars to check out a sighting. Stands of coastal sage scrub add their signature aroma as hikers follow undulating coastal terraces in the 68-acre open-space park.

Brown pelicans soar in formation, dip toward the cliffs, and then suddenly veer away. They bound over the waves on a burst of air as if on a roller coaster. One dives into the surf, targeting a fish. Offshore, forests of giant kelp reach from the ocean floor toward the sun. Beyond the kelp, spouting California gray whales glide through the ocean depths during their winter migration.

Late afternoon and sunset are special times in the park. As the sun moves lower in the western sky, slanting rays filter through the shifting clouds that cluster near the horizon. White sparkles of light dance and glisten on the ocean surface. In the golden light and lengthening shadows, the cliffs turn shades of intense orange and copper.



Brandt's Cormorant

Karen Straus

The sun moves lower, sliding in and out of the clouds, changing in shape. Sky, clouds, and ocean foam take on shades of pink, purple, and orange. After the sun sinks below the horizon, the gray dusk turns the ocean silver.

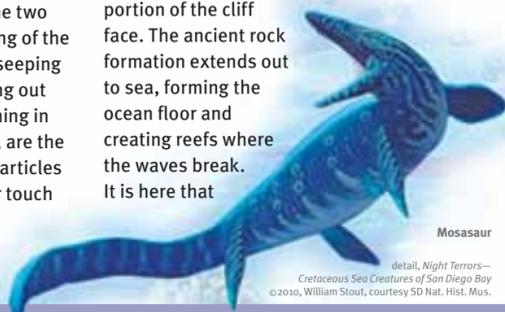
A SCULPTING PROCESS IN TIME...

There is the land. There is the sea. The two embrace. Flowing down to this meeting of the elements is a course of winter rains, seeping through porous sandstone and flowing out onto the cliff face. In opposition, rushing in from the sea and lapping at the cliffs, are the ceaseless waves, carrying abrasive particles of rock, sand, and shell that add their touch to the sculpting process.

Over time, the line between land and sea moves sinuously in and out, filling the hollows with water or land, spray or sand. At other times the hollows may be filled with sharp orange slices of light or a bowlful of fog, jade green anemone blossoms or human footprints, a dark low mossy cave, or a soaring vault with a ceiling of clear blue sky. Sunset Cliffs Natural Park focuses our attention on this gathering of beauty.

UNFOLDING STORY IN MOTION...

Around one million years ago dynamic tectonic action began to lift the peninsula of Point Loma above sea level. The 75 million year-old Cretaceous Era Point Loma Formation is the bedrock of the park and most of the peninsula. The dinosaur-era shale is the dark gray geologic strata visible on the lower portion of the cliff face. The ancient rock formation extends out to sea, forming the ocean floor and creating reefs where the waves break. It is here that



Mosasaur

detail, Night Terrors—
Cretaceous Sea Creatures of San Diego Bay
© 2010, William Stout, courtesy SD Nat. Hist. Mus.

tidepools, crevices and depressions become nurseries for sea life. Fossilized bones of a mosasaur, a thirty-foot long marine lizard, and fossilized shells of ammonites and giant clams have been discovered in the Point Loma Formation. Many of these gems are displayed at the San Diego Natural History Museum.

The sand colored Bay Point Formation sits above the Point Loma Formation, forming the upper half of the cliff face. This porous sandstone layer is young in geologic time compared to the Point Loma Formation. It formed less than 120,000 years ago during what is known as the Ice Ages in the Pleistocene Epoch. The ocean level fell during each Ice Age, then rose with the melting of the ice that covered much of the earth. Each time, sediment moved, and additional deposits of sand were added. It is this porous layer of sandstone that is particularly vulnerable to erosion. It has a tendency to collapse and slump into the ocean, and as it disintegrates, it deposits sand onto beaches.

In contrast, the lower dinosaur-era Point Loma Formation is harder and more resistant to erosion. However, seismic related fractures form

areas of weakness in the shale, allowing water to attack the cliffs – creating the caves, sea arches, and promontories characteristic of the Sunset Cliffs Natural Park coastline.

CELEBRATING THE BIODIVERSITY... PLANTS AND ANIMALS

The hillside section of Sunset Cliffs Natural Park, a designated Multiple Habitat Preservation Area (MHPA), provides connectivity to the adjacent 650-acre government protected Point Loma Ecological Reserve. This reserve, established to preserve the endangered coastal sage scrub habitat, begins at Cabrillo National Monument and extends north through federal and city property to the southern park boundary.

There is tremendous biodiversity in the park. Over 80 native plant species live in the semi-arid coastal climate of Point Loma. For example, the lemonadeberry's thick leaves retain moisture and remain green throughout the year, while the narrow leaves of the sagebrush and buckwheat preserve moisture by reducing the plants' surface area. Typically the native plants thrive on rain water, turning green and blooming in response to



Shaw Agave

Margaret Fillius



Gray Fox

Vic Moramous

seasonal rains. During the summer dry season, some of these native plants turn brown and look bare during their time of dormancy.

More than 10 species of reptiles inhabit the wildlife corridor, including the western fence lizard and striped racer snake. These cold blooded animals are commonly seen basking in the sun.

The coastal park is home to about 100 species of birds. Brown pelicans, seagulls, and cormorants are frequently seen diving for fish. Coastal sage scrub birds include the California towhee, which eats seeds with its cone-shaped bill. Many species of birds are year-round residents. Seasonal birds pause in the park as they migrate along the Pacific Flyway.

More than 20 species of mammals live in the park. Pocket mice, squirrels, and gophers provide a food source for the larger species, such as the gray fox.

Spring



Faith Hussey

A palette of colors paints the coastal slopes. Against soft green, wildflowers smile at the sun. Gentle waves lap at the rocks below. The California towhee's "chink" call celebrates the lengthening day.

Summer



Jason Richards / Cabrillo NHP

The soft morning fog recedes. Gray turns to blue and a shimmering, glorious day. A crab scurries across dark wet sand into a pool. On the trail, an alligator lizard basks in the sun and then darts into the fragrant sage.

Autumn



Jonathan Louie

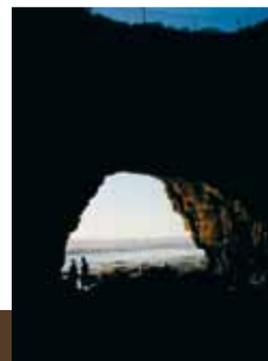
A warm breeze blows the fog out to sea. Orange sea arches are etched against intense blue. Pelicans glide in stately formation. The sun's yellow becomes gold, and for an instant emerald, as it dips beneath the crisply defined horizon.

Winter



Ellen Quick

The storm is over, its clouds now drifting east and away. In the low rays of winter sunlight, long rows of waves swell. They crash against majestic cliffs in a spray of white and sparkles. In the distance a gray whale's graceful fluke rises and then is gone.



Jonathan Louie



Jonathan Louie

The intertidal ecosystem includes narrow sandy coves and rocky reefs extending into the ocean. Here, where the land and sea overlap, the diversity of species within 10 vertical feet is among the greatest on earth.

Diverse habitats can be found in the intertidal zone. On the sandy beach, where food comes primarily from plankton and other particles delivered by crashing waves, there are crabs, clams, and worm shells. In the rocky headlands, some areas are exposed only at the lowest tides.

Surfgrass and various kinds of algae, including kelp, are visible among the reefs at moderate to low tides. Tidepool nooks and crannies offer protection for baby sculpin, opaleye, and other small fish.



Karen Straus

Vulnerable invertebrates, including barnacles, anemones, and limpets, tenaciously hold onto rocks, experiencing exposure to the sun's rays as the tide rolls in and out. Gravitational pull by the moon and sun creates two high and low tides daily. The times and heights of the tides vary from day to day. **Remember to step carefully near these fragile marine homes.**

PEOPLE AND THE NATURAL RESOURCE...

Sunset Cliffs has inspired people throughout the centuries. Native Americans were in this area more than 7,000 years ago. The Kumeyaay traveled seasonally to Sunset Cliffs, gathering roots and seeds from native plants on the coastal terrace. Seafood was harvested from the intertidal zone and roasted in fire hearths on the bluff tops.

Madame Tingley and her followers created the Theosophical Community of Lomaland on the bluffs in 1897. Later, in 1950, the site became the campus for Balboa University, which evolved into California Western University in 1952, and then United States International University (USIU) in 1968. In 1973, USIU sold the hilltop acreage to Pasadena College



Margaret Hillus

(now Point Loma Nazarene University) and 48 hillside acres to the City of San Diego. Later the City purchased additional acreage to complete the park's 50-acre hillside section, which was dedicated in 1983. In 1903 Albert Spalding purchased acreage north of the Theosophical Community, including what is now the 18-acre linear section along Sunset Cliffs Boulevard, naming the property "Sunset Cliffs." In anticipation of the 1915 Panama-California Exposition, Spalding hired a Japanese architect and spent two million dollars to create picturesque cobblestone paths, bridges, and carved stairways leading to the sandy coves. This linear section was later acquired by John Mills, who spent an additional one million dollars for restoration. The features added by Spalding and Mills eroded over time. Most of the linear section of the park was transferred to the City of San Diego in 1926.

CREATING A LEGACY...

The Master Plan for this regional resource based park focuses on protecting the significant coastal resources, restoring the endangered natural landscape, and improving public access. Following many years of broad based community input, the *Sunset Cliffs Natural Park Master Plan* was ap-



Jonathan Louie

Coastal access at Ladera Street

proved by the San Diego City Council and by the California Coastal Commission (2005).

The mission statement for the master plan is: "Create a Park where people can enjoy San Diego's natural coastal environment as it once was, free from the effects of man and intended to inspire the user to reflect on the grandeur of the sea, and the beauty of the cliffs that are Point Loma."

EXPLORING THE PARK...

Trails offer one of the best ways to experience the park. Beginning at Adair and Sunset Cliffs Blvd., a one mile coastal trail along Sunset Cliffs Blvd. allows access to views of sea arches, rocky promontories, and sandy coves.

Steps descend to the ocean at Sunset Cliffs Blvd. and Ladera St. This is the gateway to the intertidal zone at low tide.

South of Ladera St., the character of the park changes dramatically into a 50-acre natural hillside

Caution:

The cliffs are extremely dangerous.

Falls can be fatal.

Steps and rocks can be slippery, and cliff edges can collapse without warning.

Tides can change the sea level more than 9 feet within 6 hours.

Consult tide charts.



Ladera St. stairs at -0.9 foot low tide

Ladera St. stairs at +6.5 foot high tide

Eric Swenson and Jonathan Louie

area. Trails follow the curving coastal slopes, offering access to the diverse native habitat.

ADVOCATING FOR THE PARK...

Sunset Cliffs Natural Park Council (SCNPC), the City of San Diego's official advisory group for Sunset Cliffs Natural Park, was chartered by the San Diego Park and Recreation Board in 1988. The Council is currently working toward implementation of the *Sunset Cliffs Natural Park Master Plan* in collaboration with the City. The Council holds monthly meetings. The public is welcome.

The Friends of Sunset Cliffs is a nonprofit 501(c)3 California Corporation established in 1999. "Friends" Articles of Incorporation define a mission of protecting the natural cliff process, working to preserve the environment, promoting public aware-



Ellen Quirk

Hillside trail

ness, supporting public access, and raising funds through donations and grants.

Website for both organizations: www.sunsetcliffs.info



Benjamin Plester, PhD/Cabrillo NM

Starburst anemone

TO PRESERVE AND ENJOY THE PARK...

- Use the designated trails
- Keep the park clean
- Follow the rules
- Do not remove plants, animals, shells, rocks, or cultural artifacts
- Join work parties and clean up efforts
- Participate in Sunset Cliffs Natural Park Council meetings and activities

Location and directions to Sunset Cliffs Natural Park

Located on the west side of the Point Loma peninsula, the park is just south of Ocean Beach.

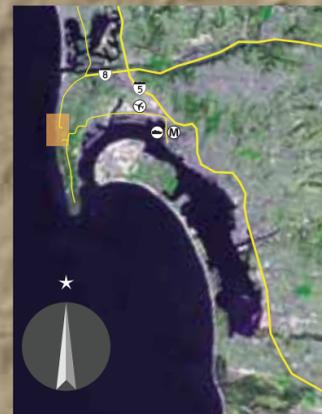
Freeway Access to Sunset Cliffs Blvd.: Take I-8 west to Sunset Cliffs Blvd. / From downtown San Diego, take I-5 north and follow signs for beach access along the I-8 Freeway to Sunset Cliffs Blvd. / From locations north of I-8, take I-5 south and take the Sea World Dr. exit, following the signs to Sunset Cliffs Blvd.

Sunset Cliffs Blvd. Entrance: Travel south on Sunset Cliffs Blvd. for approximately two miles, through Ocean Beach, to Adair St. and the northern entrance to the park.

Ladera St. Entrance: From Sunset Cliffs Blvd., proceed up the hill on Ladera St. for 2 blocks. Turn right at the park entrance.

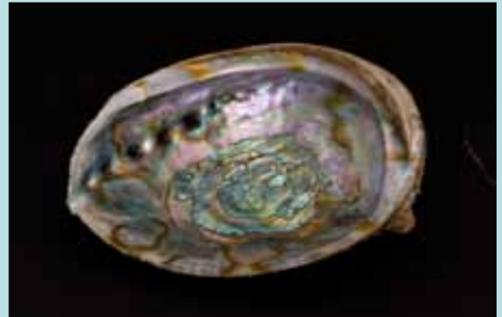
Eastern Entrance: From Catalina Blvd., turn west onto Lomaland Dr. toward the Point Loma Nazarene University entrance. Continue on Lomaland Dr., past the university entry kiosk, through the campus, and down the hill to the Sunset Cliffs Natural Park parking lot on the right. The parking lot offers a panoramic view.

From Cabrillo National Monument: Drive north on Catalina Blvd. to Lomaland Dr. Turn left and continue to the eastern entrance as described above.



location of park, relative to San Diego

- P parking lot
- unimproved trail
- improved dirt trail



John Lyons / San Diego Natural History Museum

Abalone, *Haliotis*, once abundant, are now rarely seen at the cliffs, in part because of disease in the past century.



Courtesy of James Gang Graphics

1915 Panama-California Exposition

FACT OR FICTION
Which are realities, myths or misconceptions? Test your knowledge!

1. The main cause of unnatural cliff retreat is the pounding surf.
False! Uncontrolled runoff and seepage from both rain and landscaping irrigation are major contributors to unnatural cliff retreat.
2. A favorite feature viewed from the park is part of a national monument.
True! The formation locally known as "Cormorant Rock" near Froude St. and Sunset Cliffs Blvd. is part of the California Coastal National Monument, established by President Bill Clinton in 2000.
3. Those plants are all brown. They must be dead.
False! Many coastal sage scrub species are dormant in the summer. They are very much alive, with leaves and flowers returning after the winter and spring rains.
4. The yellow-centered daisy, *Chrysanthemum coronarium*, seen throughout the hillside section of the park in the springtime, is a native species.
False! The *Chrysanthemum coronarium*, or yellow daisy, is a very invasive non-native species that is often mistaken for a native. It is considered a prime fuel for fires. The bush sunflower, *Encelia californica*, bright yellow with a dark brown center, is the true native. The bush sunflower has a longer blooming season and helps to keep the soil from eroding.