

No. 1 - Marsh View

The cattails near the water are growing in and filtering freshwater urban runoff. They cannot live in saltwater. This is a favorite nesting site of the **Red-winged Blackbird**.

No. 2 - West View

Look across the lagoon to the three bridges (freeway, railroad, and coast highway) that restrict the flow of water to the lagoon from the ocean. **Swallows**, important in reducing flying insect populations, build mud nests on the freeway bridge. In spring and summer, the air is filled with swooping birds.

No. 3 - Lagoon Birds

Large wading birds (**Great Blue Herons** and **Great and Snowy Egrets**) are seen throughout the year, stalking in the shallows. Another wader is the **American Avocet** with its striking white and black body.



fish

During the winter, **Killdeer** and small shorebirds can be seen walking or running on the mudflats and beaches. **Terns** can be seen hovering and then plunging for fish. Common waterfowl include ducks like **Mallards** and **Green-winged Teal**. The endangered **California Least Tern** is resident only in the late spring and summer.

No. 4 - Cactus

Prickly Pear Cactus tolerates low rainfall. The pads, fruit, and seeds were an important food source for Native Americans. This cactus is a favorite site for a garden spider called the



Silver Argiope. It is often a host for the **Cochineal Scale**, a small insect that at one time was a major source for an edible red dye.

No. 5 - Nesting Site

Across the lagoon is one of the five man-made sand nesting sites created for the endangered **California Least Tern** and **Western Snowy Plover**. For nesting, **Least Terns** require an open sandy area, with shells and pebbles to provide camouflage for their eggs. The fairly tall plant in front of you is **Cordgrass**, planted to make a habitat for endangered **Ridgeway Rails**.

No. 6 - Geology

The rock in the cliffs along the trail is the **Scripps Formation**. This tan sandstone was deposited in a shallow ocean approximately 45 million years ago. The

flat tops of the hills across the lagoon were cut by waves about 100,000 years ago, when the cliff tops were at sea level. The lagoon was created when the water that had been frozen in glaciers during the ice age melted, raising sea level by about 400 feet and flooding a deep canyon. From here, a fault is visible in the road cut along La Costa Avenue. It cuts across the lagoon near signpost 9, causing the low area there.

No. 7 - Shell Fragments

You will notice a large number of shell fragments on the ground; this identifies a **midden**: a spot used by local Native Americans as a refuse dump for shellfish shells. Archeologists have found nearly 200 prehistoric sites within a mile of the lagoon.

Remember this is an ecological preserve!

DO NOT DIG OR REMOVE SHELLS!

No. 8 - Coyote Brush/Mustard

Areas like this were farmed to raise lima beans. This appears to be a place where native plants have re-established themselves, especially **Coyote Brush**. There are also non-native plants like the prolific **Yellow Mustard**, which blooms in spring.

No. 9 - Riparian Habitat

This area is an often wet, low-lying drainage basin, which produced many plants, such as natives **Arroyo Willow** and **Coyote Brush**, non-natives **Watercress**, **Sweet Fennel**, invasive **Arundo** reeds, **Castor Bean**, and wild **Radish**. The palm trees were planted and are non native.

No. 10 - Eucalyptus

These **Eucalyptus** trees are native to Australia and have naturalized in California, invading native plant habitats. The leaves and seed pods that fall beneath the trees contain pungent oils that prevent other plants, including native coastal sage scrub, from growing underneath. Many trees here have lost their leaves because of an insect pest, the **Red Gum Lerp Psyllid**.

No. 11 - Mudflat Ecology

As the tide goes out, the lagoon's mudflats are exposed. These mudflats may look barren, but below the surface, this is habitat for wide assortment of invertebrates (animals without backbones). These animals can tolerate the physiological stress caused by changes in water level, temperature, and salinity within the lagoon system. The most abundant species are worms and clams. Also here are small snails and shrimp. All can be food for birds and other animals and are part of an intricate food web.

No. 12 - Mojave Yucca

The **Mojave Yucca** up the steep hill is the kind of plant that was highly regarded by early Native Americans for its many uses: they could use the fruit and flowers for food, the strong fibers for ropes and weaving, and the roots for soap. Its only pollinator is a small white moth.

No. 13 - Geology

Here we see an example of cross-bedding in the soft sandstone, produced during deposition in shifting currents. Above this, the unconsolidated soil and silt contain cobbles of mixed sizes. The fine material was brought and deposited by slowly moving water. Floods increased the velocity periodically, and the water was able to carry larger rock particles, which were deposited when velocity dropped.

No. 14 - Lagoon Fishes

The lagoon serves as a breeding and nursery area for many coastal fishes. Tidal creeks and channels provide surge-free refuges for small fishes and for the eggs and larvae of larger fishes. The places with sandy bottoms provide habitat for **Rays**, **Sharks**, and **Flatfishes**. Submerged vegetation such as **Eelgrass** shelters the **Staghorn Sculpin** and the **Pipefish** and **Goby** families. Shallow water species include the **Halibut**, **Turbot**, **Sardines**, and **Croakers**. Open water species include **Mullet**, **Bass**, **Anchovies**, **Sardines** and **Top Smelt**. You may see the **Mullet** who clean out their gills by jumping up out of the water.

No. 15 - Lemonadeberry

This bush is a drought-resistant plant. Feel the leaves: thick and waxy to resist dehydration during the hot, dry summer months. The ripe red berries have a sticky, tart coating that, mixed with water, makes a refreshing lemonade-like drink.



No. 16 - Coastal Saltmarsh

Between the trail and the water's edge is an example of a coastal saltmarsh community. The dominant salt-tolerant plant found at the lagoon is **Pickleweed**. Early settlers ate the foliage and likened it to pickles. The plant has a high alkaline salt content so it has been used for making soap and glass. **Pickleweed** is easily identified by its fleshy leaves, which look like a string of pickles. The dense low growth provides nesting habitat for the endangered **Belding's Savannah Sparrow**.

No. 17 - Sweet Fennel

This plant is similar to the one licorice comes from: smell the feathery leaves. If they smell of licorice, you can taste the seeds in the fall. BE CAREFUL! The similar-looking Poison Hemlock is toxic!

No. 18 - Cattails

Cattails are near the trail growing in freshwater from the golf course. Notice the flat leaves and the cigar-like brown flowers.

No. 19 - Wood Rat Nest

Look in this patch of **Arroyo Willows** and **Mulefat** to see a wood rat den. Listen and look for the **Bushtits** (chittering small birds).

No. 20 - California Sagebrush

This bush (smells like sage; scientific name: *Artemisia*) is the most common one of the plant community called **Coastal Sage Scrub**. It is green from winter to mid-summer, then brown and dead-looking the rest of the year. It was used by the Native Americans to repel insects in their beds and to camouflage body odor during hunting.

No. 21 - Heron and Egret Nests

Surprisingly, **Great Blue Herons** and both **Snowy** and **For Great Egrets** build their nests in trees. Look for nests and birds in the eucalyptus trees.

No. 22 - Pampas Grass

One of the most invasive non-native plants is **Pampas Grass**. If not killed (like these herbicide-treated plants) or removed, they spread seeds from their fluffy flower heads.

No. 23 - Tree Tobacco

Hummingbirds love the long yellow flowers of this small tree, which blooms all year. The leaves are toxic.

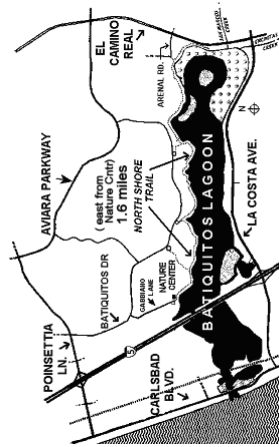
No. 24 - Geology

This unconsolidated sediment is called the Bay Point Formation. It was deposited along the sides and bottom of an earlier lagoon, less than 1 million years ago, during the last ice age. This formation contains fossils of **Scallops** and **Sea Pen** shells.

No. 25 - Coastal Goldenbush

This native plant is often found in the disturbed areas on either side of the trail. It has yellow flowers from mid-summer to fall, then dandelion-like seeds in winter. Thus, these plants are a source of food for birds when other plants are dormant.

PLEASE-NO COLLECTING!



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Preserve, Protect, and Enhance
Batiquitos Lagoon

Find out more about what
happens at the lagoon by
becoming a member
and/or
volunteering.



Self-guided Trail Guide

The California Department of Fish and Game manages the Lagoon as an Ecological Reserve. Ecological Reserves are established to provide protection for plants and animals and their habitats, especially those that are threatened or endangered.

Do not disturb the things that you find here!!

November. 2016

Batiquitos Lagoon Foundation