



### East Bluff Preserve at Ocean Trails

This moderate hike starts from Twin Harbors View Drive and descends the stairs above Shoreline Park. We will be walking on the gnatcatcher, Catalina, and east portal trails. This area lies on the dormant South Shores landslide that begins at PV Drive East across PV Drive South to the mobile home park property below. Shoreline Park is part of the City of RPV park system, and is approximately 50 acres of open space with dense, mature California Coastal Sage Scrub habitat. The area was originally re-vegetated on the upper portion as required by the California Coastal Commission for the development of the golf course. After the landslide in 1999 that caused the 18<sup>th</sup> hole of the golf course to plunge into the ocean, the lower part of the property was re-vegetated.

○ **Some of the native plants seen in the area:**

- ✓ **Sagebrush:** Native Americans (NA) used it for medicinal purposes by making a tea to relieve cramps, pain at childbirth, and as eyewash. Also, it was used as an aromatic in sweat baths, and as an insecticide sprinkled on the floors of dwellings as a flea and tick repellent. The seeds were ground and used in a flour mixture to make flatbread similar to a tortilla. It is sometimes called “cowboy cologne”. The plant is the nesting site of the [California gnatcatcher](#).
- ✓ **Saltbush:** The leaves collect salt through the root system and from ocean spray. NA would add leaves to their fires the brush off the ash and collect the salt crystals.
- ✓ **Sage (black and purple):** Black sage has dark green leaves, and the purple sage has grayish-green leaves. Both have purplish pom-pom like flowers. Both are very aromatic and smell like stuffing when crushed.
- ✓ **Buckwheat:** California buckwheat has dark green slender leaves and looks like rosemary. Ashy leaf buckwheat has grayish-green colored leaves. Both have pinkish flowers above the leaves that turn brown in the fall. Many birds and insects eat the seeds. The NA used the ground seeds in a flour mixture to make flatbread.
- ✓ **Lemonade Berry Bush:** It is a large shrub with dark green leaves and red berries that ripen with a white coating that tastes sour. The NA made a refreshing drink from the berries and also roasted the berries to grind for a coffee-like drink.
- ✓ **Prickly Pear Cactus:** It is an edible plant and the NA ate both the paddle and the fruit. You may spot 3 varieties; beaver tail, coastal, and chaparral. It is a good habitat for the [cactus wren](#). It is known in Mexican cuisine as “nopales” and tastes like green beans. The fruit is sweet and is known as “tuna” in Spanish.
- ✓ **Jumping Cholla:** Segments detach as if jumping at you. It has barbed spines and is also a good habitat for the cactus wren.
- ✓ **California Bush Sunflower:** The plant has bright yellow flowers and is a good bird habitat. The lack of water makes for dry branches that appear dead during the summer.
- ✓ **Coyote Bush:** Separate male and female plants that produce fluffy white flowers. When in bloom the stalks resemble a coyote’s tail.
- ✓ **Bladderpod:** This shrub has a distinctive smell to the leaves. It has yellow flowers and large seedpods. It is the host plant for [harlequin bugs](#), which are true bug, and go through incomplete metamorphosis (egg, nymph, adult). You can often see both adults and nymphs on the same plant.
- ✓ **Giant Rye Grass:** NA also used these seeds to ground into a flour mixture to make flatbread. The shafts were used as arrows to stun birds, and the leaves were used as thatch.
- ✓ **Mule Fat:** This plant was at one time used for food for horses and donkeys. They, however did not like it, but the mules did and grew fat, hence the name. NA used the branches as a hand drill

with tinder and a wooden block when starting fires and the long straight branches were used to make arrow shafts.

- ✓ **Dudlea:** This evergreen perennial succulent can be found on steep, rocky slopes and other areas containing rocky soils. Under proper conditions Dudlea can survive up to 100 years, hence their nickname “Live forever”.

- **World War II Era Military Site**

You will pass by remnants of a US Coast Artillery military site that was established here and faces the ocean. This particular site, known as Sea Bench, includes a 3 level base end station and a smaller spotting station. Base End Stations were part of the fire control and ranging system for the heavy caliber seacoast defense batteries established on the peninsula. These stations helped direct fire from a 6 inch Battery at Point Vicente, the 16 inch battery at White Point, and the 6 inch battery at the Upper Reservation (Korean Bell area). A base end station was one of a pair of stations at either end of a precisely measured baseline. Once simultaneous bearings from each station to a target were taken, the range to the target from either station could be calculated using a triangulation method. This information could then be plotted to estimate the position of the target and to guide the firing coordinates for the gun battery. Spotting stations were used to spot the fall of the shot which could then be used to adjust the aim of the guns for the next shot. There are 1930s era stations and post 1941 stations still on the peninsula. At one time there were 24 stations located between Fort MacArthur on the east, then White Point, Sea Bench, and Point Vicente (City Hall site).

- **Other topics of discussion**

- ✓ Over the past three million years, shearing between the Pacific and North American plates has produced dramatic uplifts in the earth’s surface. As the land or sea levels shifted dramatically, Peninsula beaches were submerged and exposed. Over time, new beaches were formed and old beaches became terraces. There are 13 beach levels of marine terraces on the peninsula. PVIC is located on terrace 2; PV Drive West and South are beach level 5. Crest Road is beach level 10. Number 13 is up at the top of San Pedro Hill, reaching 1480 ft. You can see the radar domes on top of the hill. One is for weather radar, and the other is for LAX approach radar. We are still growing up out of the sea floor at a rate of 0.4 millimeters per year (the thickness of a sheet of paper) or about **one foot every thousand years**.
- ✓ Fall and spring are good times of year to spot migrating **Pacific Gray Whales** and to discuss whale migration. Gray whale season begins on December 1 and continues through May 15 during which time volunteers from the American Cetacean Society take a census of migrating whales.
- ✓ **Animals** found in this habitat include snakes, lizards, foxes, raccoons, opossums, cottontail rabbits, and a large variety of birds, including the cactus wren, California and blue-grey gnatcatchers, kestrel, red tailed hawks, coopers hawks, and many others.
- ✓ The healthy [kelp forests](#) now evident have a bit of history. There was a die off of the kelp up until the 1970s due to pollution, warm water conditions, and an overabundance of sea urchins that ate the holdfasts of the kelp. Members of dive clubs gathered spores from the waters off Catalina to replant the kelp, and they also helped to cull the urchin population. Giant kelp is one of the fastest growing plants on earth, and can grow over 2 feet per day. Kelp provides habitat for a variety of marine life, and is itself food for some animals. Harvesting of kelp is a huge industry as it has uses in household items such as cosmetics, paints, adhesives and is also use as an emulsifier in a variety of foods such as ice cream pudding and mayonnaise, and is even in toothpaste. Algin is the substance extracted from kelp
- ✓ [Lichen](#) (symbiotic relationship between alga and fungus, the presence of which indicates a healthy environment) can be seen on many of the rocks

**Map showing Forrestal Nature Reserve/Ladera Linda and Ocean Trails Reserve at Trump National Golf Club**

