

# Walk & Rock



SANTA CRUZ MUSEUM  
of natural history



## Geology Stops

1. Lighthouse Point
2. Mitchell's Cove
3. Swift St/John St
4. Natural Bridges

## Explore geologic landmarks while walking West Cliff Drive.

### 1. Lighthouse Point

East of the “Don’t Be Next” sign you can see remnants of the brick foundation of the original 1869 lighthouse. The lighthouse was moved to Lighthouse Field on the other side of West Cliff Drive in 1879 due to eroding the Purisima Formation sandstone forming caves and creating foundational instability. The current lighthouse was opened in 1967. **Do you think erosion might become an issue for the current lighthouse?**

### 2. Mitchell's Cove

Find a set of cypress trees flanked by a wooden fence just past de la Costa Street and follow a set of concrete stairs down to a wave cut platform. **Can you spot the point of contact between the Santa Cruz Mudstone on bottom and the Purisima Formation above exposed in the seacliff?** Try scratching the two different rock types with a finger or pebble. Which do you think erodes more easily? This location is among the first signs of the Santa Cruz Mudstone along West Cliff Drive.

### 3. John Street

There is a path that leads down to a wave cut platform by the parking lot between John St. and Swift St. Even from the cliffs above you can notice "toilet bowl" formations. These gray, circular blobs formed 5-10 million years ago from calcium carbonate that precipitated when cold methane gas vented from the sea floor into the ocean. The same type of deposits are being formed at the bottom of the Monterey Bay today!

### 4. Natural Bridges

Natural bridges often form in narrow peninsulas that stick out from shore. Waves crash into the rock, bend around the tip and focus energy on both sides, sometimes forming caves that may meet in the middle. In the early 1900s, there were three connected arches (e.g. a bridge) in this location, but two have since eroded away, leaving what is now technically an arch made of the Santa Cruz Mudstone. **Do you think these arches form more in the Santa Cruz Mudstone or the Purisima Formation? Why?**