

Our Ocean Backyard — *Santa Cruz Sentinel* columns by Gary Griggs, Director, Institute of Marine Sciences, UC Santa Cruz.

#109 June 30, 2012

On the Beach- Moss Landing to Monterey



Concrete has been poured over the edge of the dunes at Sand City.



The concrete seawall protecting the Ocean Harbor House Condominiums on Del Monte Beach.

The 2nd half of our circumambulation of Monterey Bay became a bit more demanding than the first half, more like the Survivor Ft. Ord than a stroll on the beach. Day two from the Pajaro River mouth, through Moss Landing to the Salinas River, is the shortest of the three days and an easy hike- about 10 miles on a reasonably hard flat beach.

Moss Landing, at the precise midpoint of the bay, has a long and interesting history from Norwegian whalers, to salt ponds and magnesium extraction, to marine research and education, and finally whole enchilidas.

While the Salinas River formerly flowed northward behind the dunes for nearly six miles from its present mouth, to discharge north of the present day entrance to Moss Landing Harbor, farmers decided to shorten and straighten the river's course in about 1909 and apparently cut a channel straight to the sea. The river meanders around a little at the mouth today but has more or less behaved for a century.

In the mid-1940s, the Moss Landing drainage system was altered again. The Army Corps of Engineers dredged a channel through the dunes directly opposite the mouth of Elkhorn Slough and created a permanent entrance channel protected by jetties. While this created a more stable entrance channel and shortened the route to the sea for drainage from the slough, it also steepened the gradient and led to beginning of down cutting and erosion in the slough.

The relative ease of Day 2 quickly became a distant memory as we left the Salinas National Wildlife Refuge. The beach gets progressively coarser, steeper and softer proceeding southward. For the next 8 miles or so, you can either walk along the steep, narrow and wet part of the beach, dodging the incoming waves, or walk along the dry, flatter and softer upper part of the beach (the berm), although either begins to take its toll on your body after several miles. The beaches along the southern bay shoreline are quite coarse, and as a result are steep and poorly compacted. Walking just takes a lot more energy because you sink deeper into the sand.

CEMEX is still sucking beach sand out of a pond on the back beach and dragging sand off the beach with huge buckets to keep their Marina sand mining business going. Removing the equivalent of 20,000 dump truck loads a year has to have an impact on the shoreline, and erosion of the shoreline southward from Marina to Monterey appears to be the direct effect of the continuing beach sand removal. For some reason, no permitting agency seems capable or willing to take the steps necessary to terminate this beach sand mining operation.

Another former sand mining site in Marina has now been converted to a resort in the dunes, right next door to the sewage treatment plant. Measurements from historic aerial photographs at this location taken between 1976 and 2004 indicate that the sandy bluff has been retreating at about 5 feet/year on average. There are going to be some challenges in this area in a few years.

Dune erosion a few miles to the south at Ft. Ord proceeded at over six feet per year for decades. While Stillwell Hall was a special place for many World War II soldiers where they enjoyed their last evenings before heading overseas, bluff retreat led first to its abandonment and finally to its demolition in 2004. The large volume of broken concrete and rock that had been dumped over the bluff over the years in an attempt to slow erosion has all been removed and the beach has returned to a natural state.

Scattered along the beach fronting Ft. Ord are also the remains of 4 large concrete sewage outfall pipes, which originally discharged at the edge of the dunes, but the remaining support pilings stand today as sentinels about 200 feet from the bluff as erosion continues.

The coastline changes dramatically when we reach Sand City. For about half a mile of shoreline, the entire bluff consists of either broken concrete slabs that were dumped over the bluff edge, or what initially appears to be gray lava flows oozing down the slope, but which is actually the remains of decades of dumping the left over concrete from Redi-mix trucks. This has formed a very hard crust over the sandy bluff that resists wave attack. At one point, the resistant concrete forms a promontory that juts out into the surf, and is the only place (besides the entrance to Moss Landing Harbor) where you cannot continue a complete bay walk along the beach.

At this point we reached civilization. After miles of quiet and unpopulated sandy beach, where we encountered only a few dead seals and birds, and a plastic detergent bottle from Japan, people with towels and umbrellas all of a sudden begin to appear.

But we still have about three miles to go. Erosion has threatens shoreline development as we continue downcoast, evidenced by the recently rebuilt concrete seawall protecting the Monterey Beach Hotel, which becomes a peninsula in the winter months. And then there is the new overhanging concrete wall fronting the Ocean Harbor House condominiums, which was supposed to look like an eroded sand dune. We didn't think so.

But three days and 35 or so miles later, the group finds renewed energy as we approach Fisherman's Wharf, happy to be alive. Just in case this adventure of a lifetime sounds appealing to you, Sandy and I are going to do it again this October. You can go to www.historydude.com to learn more and sign up.

