

Why are the Beaches Washing Away? Part I

By Sharon Kemmer



the greater the erosion. What we need is a gradual slope extending far into the sea so that waves break away from the beach and roll gently ashore. The current berm and narrow beach offers little real protection and loses sand to large wave action as fast as it can be scraped into place.



An ancient story attributed to the Buddha: Twelve blind men are describing an elephant; each "sees" it totally differently. One says it is long, hard, and sharp (the tusk); another says it is small like a snake with a brush at one end (the tail), and so on. It is a story about perspective; each is convinced his firsthand experience is the whole picture. Our elephant in the room is the erosion of the Peninsula beach. And we argue: We need a higher berm; we need parking permits; we need a 300' wide beach; we need speed tables and traffic monitoring; we need animal control; we need liquor enforcement (except for residents). We need; we need. Lest we forget, six months ago a SINGLE wave washed the end of the berm onto the Peninsula at 72nd place. It left fish and 3 feet of water and sand in the homes and streets at the east end of the Peninsula. All the side issues need attention, but if our homes wash into the Bay, the other issues will seem irrelevant.

speeding. If the resident lives on 67th Place, the ocean is a bunch of rich people who are about to submerge the Peninsula; on the Bayside, people are plagued by loud, drunken beach-goers who urinate in their planters, side swipe their cars and only know about 20 swear words... And so on. Each resident has a different perspective from his "firsthand" experience. Yet the truth lies in the bigger picture, the sum of all "blind" perspectives. And this is quiet public beach in a residential neighborhood, home to all manner of aquatic and shore wildlife. The Peninsula is a beautiful place for everyone to walk, swim, sail, paddle, and enjoy.

It could be useful for the residents to form a united perspective on the challenges facing the Peninsula. And Number One is the erosion of the beaches. While we try to mitigate other problems like speeding, petty crime, dogs, and nuisance abatement (drugs, noise, etc.), it is all for naught unless we talk about the "Elephant" in the room, protection of the beach from erosion.

This is a subject for more than one article, and we are looking to the experts on this -- Sea Rise Vulnerability Assessment (how soon will we wash away if we do not take steps) -- the Hot Topic. All over the world, people are assessing their vulnerability to major

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floods, rising tides, increased threat of hurricanes and violent storms, and shoreline change. The Netherlands has its dykes, New Orleans has its levies, Hoboken (battered by Hurricane Sandy), has a plan to protect its beaches to avoid future flooding. Like the Peninsula, Hoboken is dense (50,000 residents stuffed into a little more than a single square mile). But unlike the Peninsula, Hoboken has unity of purpose and has a plan strengthen its beaches and restore its wetlands.

The Peninsula could use unity of purpose, both on the Peninsula and in the larger City. Let us start with part of the question: Why are the beaches washing away? The short answer is that the ocean is washing away the sand, eroding the shore. Ocean currents bring sand in and take it out. Why are ours only taking it out? Short answer: Development. The building of the Ports and development in the Harbor (who can forget the huge investments in landfill, the Queen Mary, Spruce Goose, etc.) all contributed to changing the off-shore currents which have been moving sand down the coast for eons. These are the currents which built the Peninsula as a rather permanent feature outside the wetlands of Belmont Shore and Naples, a feature which begins at the Rainbow Lagoon and extends almost to Seal Beach. Today, only an off-shore current remains which moves sand to the west.

In the early 1980's, the city of Miami spent \$165 million dol-

ars to add sand to a 10 mile stretch of the fast-eroding South Beach. In doing so, they rescued a wealthy neighborhood of shops, hotels, restaurants, and homes. As a form of beach nourishment, adding sand has a track record for slowing or delaying beach ero-



sion. But adding enough sand to be effective, to extend rather than maintain a badly eroded beach can be costly. Miami found it economically beneficial to save South Beach. In the 1970s and 80s, Long Beach developed the downtown shoreline and harbor, largely with tideland funds. This changed the currents along our beach and a 300' beach at 67th Place became a 25' beach in 2010. Long Beach is budgeting about \$100,000 a year to back-pass sand from the west to the east end of the beach. This back-passing of sand is used to build protective berms, but more importantly, used to extend the eroded

beaches that protect our coastline and homes. Some mistakenly believe that the raising and lowering of the berm is make-work, sort of like digging a hole and then filling it in again. The berms are part of a larger program of back-passing sand from the west to the east

of our beach that was promised to the Peninsula when it became apparent that development was changing the shift of the sand. The major back-passing is done in the fall and spring. The City has contracted this out, but -- as a budget saving measure -- they used only City equipment for three years running and only 1/3 of the sand was replaced in that period. Hence the beaches narrowed dangerously... The grunions, by the way, are no fans of the berm as they are unable to wiggle uphill to lay their eggs. Grunion runs on the Peninsula are a thing of the past unless we figure out how

to extend and maintain a gentle slope on our beach.

So, if currents bring in sand as well as take it away, why are our currents only taking it away? There are many causes of a change in beach erosion and this is happening all over the world. When people build harbors, or structures that disrupt and change the off-shore currents, it can cause the sand to just wash away in some places, to build up in others. The long shore currents that used to deposit sand on the Peninsula have been changed by development. The other causes of beach erosion -- the storms, waves, currents, rising ocean levels, and winds which carry sand away from the Peninsula are also at work. If the oceans raise just 20, most of the Peninsula and Belmont Shore will be under water in a King Tide (the highest tides, usually in the summer and winter, when the sun aligns with the moon and earth to form the maximum pull on the seas). Climate change and rising sea levels is a whole other topic. In the short term, storms are the major threat.

Storms are the most dangerous things that can happen to beaches. A single storm, like the Tropical Storm of 1939 (see prior Pelican Insert), can wash away an entire beach! One minute the beach extends out 300'; the next day, there is no beach. When Hurricane Maria hit the west coast of Mexico this fall, south facing beaches like Long Beach caught some of the peripheral storm damage. Huge, violent waves

pounded the Peninsula's ocean beach, water surged over a low spot on Ocean Blvd, in the open area between Bay Shore Avenue and 55th Place. City workers scooped and hauled sand round the clock to build and re-build protective berms. If scientists are correct (and aren't they usually), we will have more, rather than fewer, storms and hurricanes. The 1939 storm occurred because Pacific Ocean temperatures, usually 70° or lower, reached 78 °, creating the conditions where a storm at sea could move into the warm waters off shore rather than blow out to sea. In this case, a hurricane-force storm which came ashore in San Pedro. Water temperatures in the Pacific are rising with an El Nino condition developing along the equator.

In short, the beaches are eroding (washing away) because of development, storms, waves, rising oceans, and winds. Part II: What can be done? The good news, is a lot of things can be done and most are very logical and very effective at higher

slowing, delaying and even stopping beach erosion. The easiest question, it turns out, is why are the beaches washing away? Yet it is important to understand WHY in order to see WHAT can be done. If we can not achieve some unity of purpose, then we will never gain the necessary perspective on the most important question for our neighborhood, the beaches. The beaches are the elephant in the room. This is not to say that we cannot slow speeding, weed the median, address parking, etc. It is to say that these will seem like minor accomplishments if we wash away, as many homes did in 1939.

In a future discussion of long term solutions, it is important to understand that the berm is a short-term measure; not only is it unsightly but it hardly substitutes for a 300' wide beach as protection. Further, the berm presents a vertical surface which exacerbates erosion by large wave action. The greater the berm, the greater

