

CAPISTRANO BAY DISTRICT
AGENDA REPORT
July 31, 2012

Committee Reports

ITEM I.1

LCP Committee Activity/Mean High Tide Line Survey

The District has been regularly surveying and plotting the location of the Mean High Tide Line (MHTL) on our beach for the past eleven years. Every June around the date of the summer solstice, our survey engineering crew measures the exact position of the MHTL at 18 locations along our beach. Eleven years of data collection clearly indicates the Mean High Tide Line is creeping ever-closer to the homes as we continue to lose huge volumes of beach sand.

The MHTL, at any location along all beaches in our geographic region is very basically the point on the beach that is 1.92 feet (about 23 inches) above Mean Sea Level (MSL). While the MSL is agreed upon by the marine science community as the zero point of reference for measuring everything else from, it is becoming the subject of discussion about possibly raising this elevation to account for global warming and the melting of glaciers, ice sheets and icebergs. An increase in the established elevation of the MSL would move the location of the MHTL to a point closer to your homes, thus shrinking the buffer zone between the public and private beach areas.

More than this potential, however, is the fact that our beach is losing sand each year. Tide action and several years of El Nino weather conditions have contributed to this very noticeable loss of sand. Another potential contributing factor to our sand loss is the continual mining of sand up in the San Juan Creek watershed. While it is not done to the extent it used to be, this removal of sand from the riverbed has drastically diminished the sand quantities that would normally be transported each season downstream to the ocean.

Examples of MHTL landward movement and sand loss over 11 years:

<u>Address</u>	<u>MHTL in 2001</u>	<u>MHTL in 2012</u>	<u>Distance/Beach Lost</u>
35051	188 ft.	112 ft.	76 ft.
35101	235 ft.	163 ft.	72 ft.
35197	203 ft.	156 ft.	47 ft.
35431	199 ft.	164 ft.	35 ft.
35527	193 ft.	151 ft.	42 ft.
35687	113 ft.	81 ft.	32 ft.
35781	91 ft.	72 ft.	19 ft.
35851	97 ft.	81 ft.	16 ft.

**Note that the northern extent of our beach tends to be losing more sand than the southern portion. This survey does not tell us why.*