

On April 7<sup>th</sup> 2010, Professor Gary Griggs, UC Santa Cruz, a student of California coastal erosion for more than 40 years, and David Revell's academic advisor, said about "hard structures" along the coast, on the basis of his studies:

- 1) he cannot cite one instance where erosion of a beach has occurred in front of a cliff or berm armored with rocks or concrete, except in cases of passive erosion, and his studies have focused directly on that issue; he presented several examples of engineered armoring in Santa Cruz County, which are so natural looking, that they defy determination of where the natural cliff ends and the artificial cliff begins;
- 2) rock groins, once given a bad rap 30 years ago, have proven to be not as bad as first thought. He cited several instances where groins have been in place for several decades, with California Coastal Commission (CCC) permission, especially from Santa Monica to San Diego, and have been very effective in retaining sand for beaches;
- 3) narrow beaches, and he mentioned Isla Vista specifically, will always be narrow beaches; wide beaches can wax and wane with the seasons, storm cycles, sand supply;
- 4) the sand supply is constant along the Gaviota - Santa Barbara coastline over the past 80 years at 300,000 yds<sup>3</sup>/yr, based on dredging volumes from Santa Barbara Harbor;
- 5) Griggs agreed that a hard structure, such as the Goleta Beach revetment, when placed above the high high tide line does not cause, promote, or affect the erosion of sand from the beach. In fact it can protect land or structures behind it at the time of the infrequent major storm, such as an El Niño year. He gave an example of a revetment in northern California that is buried by a sand dune, except during high storms when it protects the dune from erosion.
- 6) Nurturing and replenishment are effective for a year or two, depending on the storm history, before all the sand is eroded away;
- 7) His objection, like so many other people, to hard structures is visual (and he showed some very ugly examples), not in their role in mitigating wave erosion;
- 8) He was astounded to learn that the County and CCC want to restrict beach access via private stairways, and cited the construction of the UCSC marine laboratory as an example of over zealous extension of CCC's regulatory authority.