

## Press release

### EcoShore's PEM system adds 25,000 cubic yards of sand and saves the Town of Hillsboro Beach \$1 million\* and avoids the emission of 75 tons CO<sub>2</sub> in first 18 months of deployment.

In February 2008, EcoShore installed a PEM system on one mile of beach in Hillsboro Beach, Florida, USA, to *mitigate beach erosion and potentially increase sand levels*. Within 18 months, both objectives were exceeded.

Since its installation, the PEM system added approximately 25,000 cubic yards of sand to the beach (from the dunes out to a depth of 5 ft. of water). This is equivalent to 2,000 truckloads of sand. If lined up bumper to bumper, the trucks would fill up A1A between Hillsboro Beach and Ft. Lauderdale, FL, see Figure 1.

The project cost was a fraction of the purchase price to excavate, transport and distribute an equivalent amount of sand, and caused no incremental consumption of energy, which avoided the emission of approximately 75 tons CO<sub>2</sub>.

EcoShore had promised the Town that the PEM area would do at least 25% better than the area without PEM. After 18 months the PEM area had outperformed the non-PEM control areas by over 100%, easily meeting the objectives.

The success of the PEM system has not affected the nearby beaches, nor the turtles, who placed the highest number of nests in Broward County on a beach with PEM installed, as documented by Professor Curtis M. Burney, PhD, Nova Southeastern University, Florida.

The volume change of sand in the PEM area versus the non-PEM areas can be seen in Figure 2 at depth of -5 ft, and in Figure 3 at depth of closure (-15.6 ft). In both tests the PEM area did considerably better than the North and South Controls with no PEMs installed.

On the dry beach, the PEMs have been able to reduce the erosion from 3 cubic yards per foot of shoreline per year to 0.4 cubic yards, a reduction of 84%, according the Town's consultants: Coastal Engineering Consultants, Naples, FL.

"We could not ask for better results" says Kenneth Christensen, president of EcoShore. "It documents that PEM is a sound technology both environmentally and financially".

At the Port de Mer condominiums, at the north end of the PEM project area, 8,000 cubic yards of sand was placed as an emergency fill shortly after the PEM project started. (Of course this volume is deducted from all the numbers given above, as it is not a result of PEM). Under normal conditions the 8,000 cubic yards sand would have eroded away in a few months, but because PEMs were already installed, not only has the sand stabilized - more has been deposited by the ocean, and after 18 months the sand volume at Port de Mer has more than doubled.

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\* Compared to what the neighbouring town paid per cubic yard of sand during the same year

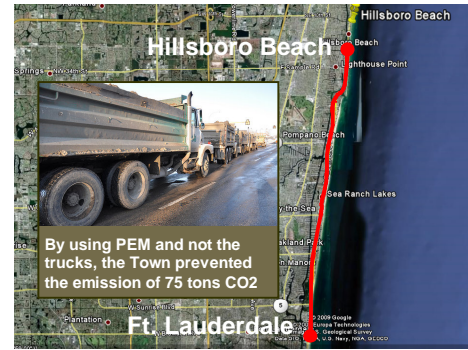


Fig.1: The PEM system has brought in 25,000 cubic yards of "free" sand, that is equivalent to 2000 filled dump trucks, lined up bumper to bumper from Hillsboro Beach to Ft. Lauderdale Beach, a distance of 11 miles.

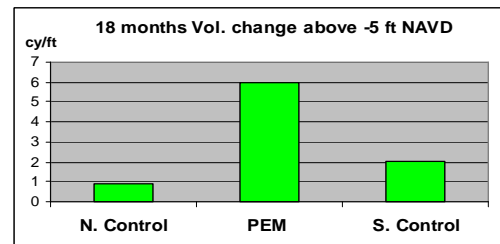


Fig.2: Volume change above -5ft NAVD compensated for nourishment. Source: SDI/EcoShore

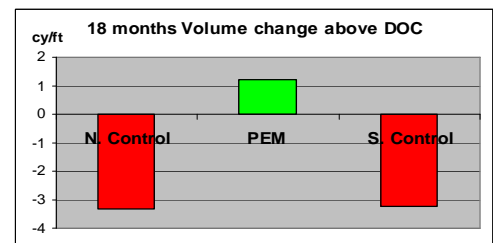


Fig. 3: Volume change above depth of closure compensated for nourishment. Source: SDI/EcoShore