

# The Severance decision and the causes of beach erosion and shoreline retreat in Texas

(See link to Caller-Times article below my comments)

I personally would like the open beaches act to stay in force. However, it does constitute an unconstitutional taking. The state, as most states and countries, owns the submerged land below mean high tide, and this is how most of the original Spanish, Mexican and Texas (after independence) land grants were constituted. The property owner owns the land above MHT, including the dry beach between the vegetation line and MHT. Interestingly, Mrs. Severance called me several years ago to see if I would consult as an expert for her lawsuit. I declined, saying that she didn't have a chance. HmMMMM.

Well, there is another factor of significance here. Nearly all of the shoreline retreat and beach erosion in Texas is due to man-made changes in the shoreline and the rivers that were done by the State and the Federal government. These include:

1. Long jetties such as at Port Aransas and Galveston which permanently trap millions of cubic yards of sand which would otherwise be moving along the shoreline and nourishing the beaches (over 30 million cubic yards or 5 million dump trucks at the east jetty Galveston alone).
2. Inlets which sweep sand into the bays which would have continued along the beaches (about 15 million cubic yards (about 3 million dump trucks) at Rollover Pass, so far).
3. Altering river mouths (moving the Brazos River 7 miles to the west starved the beaches of Surfside).
4. Building reservoirs on every available spot on our rivers has trapped the sand which was moving to the coast from the Rio Grande, Colorado, Brazos and Sabine Rivers. In addition, the flood control by those reservoirs reduces peak flows further reducing sand transport to the coast. The Brazos river transports only 1/4 of the sand to the coast that it did before the major reservoirs and the Rio Grand transports almost none and sometimes has a dry bar across its mouth. In 1992, the mouth of the Colorado River was diverted into Matagorda Bay, starving Matagorda Peninsula of the sand that it used to dump into the surf.
5. Water extraction for industry has caused subsidence of several feet at Surfside and more in some other places.

We would not be having significant shoreline retreat and would probably have accretion and shoreline advance, if these changes had not been made. Geologic evidence indicates that most of the Texas Gulf beaches were accreting before 1900 when these changes began.

If the State or the Feds build a reservoir which will flood the land, then they must purchase that land from the owner who is to be flooded. The beach erosion was not anticipated when the above changes were made, and the correlation was not even recognized till 10 or 20 years ago. So, in addition to the 4th amendment reasons, I personally believe that the State should purchase the property necessary to maintain a public beach, since the State caused the shoreline erosion, even though this was not anticipated.

The long jetties for ports, moving rivers to benefit ports, reservoirs for water supply and flood control benefit all Texans. Maybe all Texans should pick up the tab for the shoreline retreat caused by these projects.

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<http://www.caller.com/news/2012/may/25/texas-should-keep-defending-its-right-to-its-own/>

See also:

[\*Severe Erosion of Texas Beaches Caused by Engineering Modifications to the Coast and Rivers \(abs.\)\*](#)

[\*Coastal Law and the Geology of a Changing Shoreline, March 2006, updated to include section on poor beach and dune management practices\*](#)

[\*\*\*"SEVERE BEACH EROSION AT SURFSIDE, TEXAS CAUSED BY ENGINEERING MODIFICATIONS TO THE COAST AND RIVERS"\*\*\*](#)

Dr. Watson gave a presentation titled *Severe Erosion of Texas Beaches Caused by Engineering Modifications to the Coast and Rivers* at the Harte Research Institute auditorium, Texas A&M University, Corpus Christi, Texas on Friday January 19, 2007. The proposed 350 ft. setback for construction on Nueces County barrier islands was discussed. A PowerPoint slide show of this talk with narration as presented at the Harte Institute can be downloaded at the following link. **The presentation is about 70 megabytes and will take about 15 minutes to download on a fast connection.**

[Please click here to download the file erosion.pps](#)