

Banks, Beaches & Boulders

Sound sure travels across the water. We were doing a little fishing in the harbor, mainly enjoying the sunshine and the relative quiet.

“Ya know, this shoreline sure has changed!” came floating in the air past us. “And not for the better either. Used to be nice sandy beaches. Now all these rock revetments. Guess it’s that or losing another house to the ocean. Mother Nature will have her way, and....” They pulled in their lines and motored away, out of ear-shot, leaving their comments behind stuck in my head.

My fishing buddy was also thinking about it and asked, “How did these things get permitted? Will every property have a rock wall one day?”

“Well, I don't know about 100 years from now with sea level rise, but right now there are pretty specific regulations as to what you can and can't do on a coastal bank. The current wetlands protection regulations don't allow 'engineered structures' like a rock wall unless it's necessary to protect a building that was built prior to Aug. 10, 1978 *and* when there is no other viable option to keep the house from storm damage.”

I continued, pointing toward a classic old Cape perched behind enormous boulders. “That was the case with that house there, so those folks were allowed to build a rock revetment. But see that house there with no rocks, I remember when that house was built about 15 years ago. The owners were warned by conservation that the bank was eroding and that according to the regulations the building wouldn't qualify to be protected by a rock wall in the future. They insisted on building anyway even though they said they understood the risk.”

“So tell me why *that* is a regulation?”

“Well, because...eroding coastal banks basically feed the beaches. The eroding bank results in soil or sand falling to the beach. This helps keep the shoreline above the high tides. Once a wall is put up, it stops this natural coastal process. The state recognized that preserving our coastal beaches is important to us all, so the regulation was created some 30 years ago. In fact, even when a rock wall is permitted, it is now required that property owners add sand every year in an attempt to mimic the natural processes in an effort to maintain our beaches.”

“You mean they have to feed the beach?”

“Exactly. They may be required to import sand as necessary. The idea is to mitigate the negative effects of the revetment on other properties.”

“Negative effects?”

“Like I said, the main problem with putting up rock walls is that they interrupt natural wave action and the ability of the bank to erode sand onto the beach and therefore they can basically starve other down-drift beaches of sand so that they in turn erode more quickly than would happen naturally. They can also cause some other unwanted impacts such as accelerating erosion on the adjacent land. Has a snow-balling affect. It’s all one system, and messing with part of it impacts other parts.

“Oh my god!,” she screamed—heard all over the harbor I’m sure!

“Ya, but there are other options to managing shorelines, like...”

She interrupted, “No, it’s a fish!”

For more information on coastal processes contact the conservation office or visit www.mass.gov/czm/stormsmart