



Surrender the Sand?

Not all of our beaches can be saved by fighting nature. **BY JENNIFER L. SCHWARTZ**

It's hurricane season, and scientists say the Northeast, at some point, is due for a big one. After unusually high tides and brushes with tropical storms this summer, hazard-prone areas of the coast are especially vulnerable. More weather like that, and it's beaches here today, gone tomorrow. Just ask the former cottage owners in Chatham's First Village, who watched the sea swallow their homes in June.

Along Massachusetts's 192-mile coastline, the ocean is encroaching on our love affair with the beach. Hundreds of millions of dollars of shorefront real estate are at risk due to

both chronic, long-term erosion and episodic, storm-induced erosion. From our anthropocentric view, we try to stop beaches from shrinking and threatening the people, property, and industry located behind the high water lines. Maybe it's time we relent.

Erosion, the whittling away of sediment by wind and water, is nothing new, nor bad. It's responsible for carving out and maintaining many of our natural features, including those dunes and bays where we've built a thriving economy and an emotional connection. Today, 77 percent of the state's population lives in coastal counties exposed to sea level rise, as well as to flooding and storms that are predicted to increase in frequency and severity, according to

the Massachusetts Office of Coastal Zone Management. Boston, Nantucket, and Falmouth are among the "critically eroding" areas.

Geologically speaking, the trouble isn't erosion. Decades of development have effectively fixed beaches in place. Instead of allowing the coast to naturally readjust by erosion and sand deposits, we've built homes and barriers at the foot of dunes, assuming that we'll enjoy sparkling views for the life of the mortgage.

Ocean experts cite three "solutions" to beach erosion, two of which have been tried with mixed results. Armoring beaches with a hard structure such as a sea wall protects property in emergencies, but it also blocks sediment flow that can sometimes replenish a

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beach. The jetty built for the Cape Cod Canal, for example, blocked down-drifting sand from reaching Sandwich.

The second option is called nourishment, or soft beach restoration: Dredge off the coast and pump it onto sand-starved beaches. But this requires maintenance and can disrupt marine habitats. And in some cases, it can irreparably change the sand and surf offshore. Surfers and fishermen have successfully blocked nourishment projects in New Jersey and Florida.

The third option, strategic relocation, is a sad Orwellian-sounding plan that few want to talk about. But it's time we start the conversation on retreat, especially given sea level rise predictions. Granted, many scientists who debate the effectiveness of the first two options are reluctant to go this far. After all, pulling back from beach properties everywhere is impractical. Still, for the most hazard-prone shores, do we really want to wait for a ruinous storm to hit before we weigh this seriously?

We should ask ourselves what we're trying to preserve. Is it the beaches – or our easy access to and manipulation of them, something to which we feel entitled? Try as we might, the ocean's unrelenting force dwarfs any man-made structures or costly Band-Aids we apply.

My family, too, owns a beach house; ours is at the Jersey Shore. I grew up boogie boarding and picking taffy from my teeth. I understand that states like New Jersey and Massachusetts are heavily dependent on coastal tourism, and I'd never suggest we abandon beach recreation. Perhaps, though, our approach to development, restoration projects, and emergency response needs to change. Massachusetts's coastal management agency has already begun to implement revised disaster preparedness plans and zoning regulations on new construction. Still, home rule and public policy make getting involved in private real estate decisions tricky.

Until an event of devastating magnitude jars us awake, we'll probably continue business as usual. Jim O'Connell, a geologist with the Woods Hole Oceanographic Institution, said it best in 2007 while opening a workshop called *The Future of Massachusetts Beaches: Relocate, Nourish, or Lose Them*.

"Americans have had a great fondness for beaches throughout the country for a long time," he said. And in the 20th century, that fondness turned into a love affair. But perhaps, he added, "we are loving our coast to death."

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