

VIEWPOINT

Conservation agent sets dune record straight

Op/Ed, submitted by Anne Herbst,
Hull Conservation Administrator

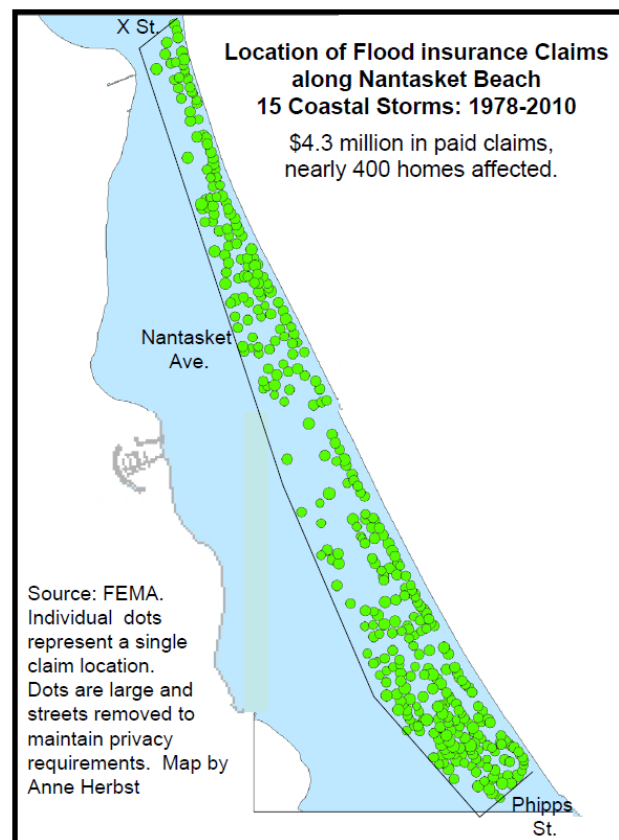
In the past few months The Hull Times has hosted a lively debate about the management of Nantasket Beach. With the devastating effects of “Sandy” so painfully etched in all of our minds, I would like to respond to the issues most directly related to how Hull’s beach and dune protect against storms and what the state wetlands law requires to maintain that protection.

Some questions that come up regularly include:

- Does the dune really protect against flooding?
- Do the Department of Environmental Protection [DEP] wetlands regulations actually say that we can’t scrape the beach?

- Are there different rules for the DCR beach?

Since 1978, \$4.3 million in flood damage claims from 15 different coastal storms have been paid out to nearly 400 property owners in the neighborhoods adjacent to Nantasket Beach bounded by Phipps St.



on the south, XY St. on the north, and Nantasket Ave. on the west. [See graphic.]

Nearly \$4.2 million of the total payout was caused by 10 storms that occurred between 1978 and 1993, largely before the growth of the current dune. These figures do not include damage to properties without flood insurance or to town streets and infrastructure, nor can they begin to depict the heartache and disruption that accompanies flooding.

Some have commented that since the dune will not likely survive a major storm, it does not have value for storm protection. The sad truth is that when a storm the magnitude of Sandy hits Hull, the dune will not survive and, just like the barrier beaches in New Jersey, the town will experience devastating flooding. But that should not deter efforts to provide the greatest protection possible against all storms.

Dunes protect against flooding by holding back storm surge. Beach grass anchors the dune and traps sand that would otherwise blow off the beach. About this, there is no scientific debate.

Great progress has been made building up the dune with annual beach-grass planting, filling openings, and redesigning town paths for access and storm protection. During a minor northeaster in 2006, I took photos of the ocean coming through openings that have since been filled. In the Patriots’ Day storm of 2007 and the Christmas storm of 2010, the dunes held.

Significant issues remain – the parking lots and cement patios that should be restored to dunes are highest on my personal list. The ongoing walking on filled paths is another. Everyone would be outraged if, through acts of carelessness or vandalism, one of our seawalls was damaged or destroyed. We should respond no differently to damage done to the dune.

What do the Wetlands Protection Act regulations say about beaches, dunes, and coastal storms? Plenty. Coastal beaches and dunes are protected because they provide storm damage prevention and flood control. Beaches reduce wave energy and dunes protect against storms because of their height.

Projects on coastal dunes cannot disturb vegetation, remove sand, or otherwise increase the potential for storm damage. Projects on a coastal beach cannot increase erosion, decrease the volume, or change the form of the beach.

Thus, the coastal beach regulations define the problem with beach scraping. You cannot decrease the volume [remove rocks] or change the form [bulldoze sand up or down the beach]. The underlying reasoning is that removing material – whether rocks or sand – leaves less beach to provide resistance to storms.

Bulldozing the beach, for example bringing material from low tide to high tide, allows the waves to travel closer to shore before they meet any resistance. Changing the beach can have unintended consequences. The general principal is that allowing the beach and dune to respond naturally to wind and tides provides the greatest storm protection.

For those who wonder whether the town is misinterpreting the regulations, they have, in fact, been tested. In 2001, the town filed a wetlands permit request to return to the practice of bulldozing sand to cover rocks on the beach in the spring and moving the sand back again in the fall. The request was denied by the Hull Conservation Commission and rejected again by the state DEP on appeal.

The town hired a coastal engineering firm and cited various studies to support its request. The DEP responded that the studies were either irrelevant to Nantasket Beach or actually undermined the proposal. The denial stated clearly that beach scraping violates the regulations for storm damage protection and flood control.

In 2007, residents on the north end of the beach, expressing safety concerns, requested that rocks adjacent to their homes be removed and the beach lowered. The town asked the DEP to visit the beach and give advice as to what could be done.

A coastal geologist from the DEP did a site visit. The resulting letter from the DEP, while offering alternatives the residents chose not to pursue, once again highlighted the restrictions on beach scraping.

I recognize that not everyone is persuaded by the science that supports the restrictions on beach scraping. But there should be no confusion about what the wetlands regulations say, or how they apply to Nantasket Beach. The letter from the DEP is appended to the Hull Beach Management Plan, which can be downloaded from the town website.

The wetlands regulations apply to all beaches and dunes in Massachusetts, whether publicly or privately owned, or managed by the state, towns, or private homeowners. Both the town and the state Department

of Conservation & Recreation [DCR] have scraped their respective portions of beach in the past and both have been taken to task for their actions.

Indeed, the town paid a \$10,000 fine. In my view, a series of incidents combined with the previous denial of a permit for beach scraping likely led to the state's decision to fine the town. I believe the town and the DCR currently maintain the beach in compliance with DEP regulations. Yet legitimate activity can be misinterpreted. The town and the DCR placed sand at beach openings prior to Sandy. Neither the town, nor the DCR, scraped the beach.

So, what is the town to do? As many have stated, Nantasket Beach is the town's greatest asset and summers at the beach its most cherished tradition. How can the town abide regulations that protect against flooding and residents still enjoy summers on a sandy beach? There is a way to have both.

The wetlands regulations have an exception to beach scraping restrictions, and that is for beach nourishment. With proper design and permits, sand may be *added* to the beach. Beach nourishment, a common activity along the East Coast, could provide a sandy beach and additional storm protection by moving breaking waves further from homes and streets.

I do not minimize the obstacles to beach nourishment. To date, the state has not succeeded in permitting the use of offshore sand to augment beaches. Where the additional sand would come from, what it would look and feel like, and who would pay for it, are just some of the thorny topics that would have to be addressed.

Yet sea level is rising and storms are projected to become more frequent and intense. Flooding and storm damage will become ever more challenging town concerns. Rather than "spinning our wheels in the sand" fighting regulations designed for protection, we should pursue a solution that could deliver better storm protection and a sandy beach.

The opinions expressed here are my own and do not represent the position of the town of Hull. ∞