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Damage, challenges after storm

Repairing coastline won't be cheap, but who will pay for it?

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The monster offspring of Tropical Storm Ida has taken a huge bite out of Delaware's Atlantic coastline, devouring much of the beaches, gnawing at the protective dunes and creating a huge challenge for the state and resort towns who are unsure if repairs can be done quickly enough for the summer tourist season.

As the waters slowly receded Saturday, the extent of the damage from the two-day storm became readily apparent, with its teeth marks clearly visible in the 5-foot jagged drop-off at the dunes at Rehoboth Beach.

State and federal officials will begin a formal assessment of what remains of the fragile coastline this week. Yet questions remain about who would pay for any repair work, how much it would cost and whether it could be done before the impact of another powerful storm.

"It's too early to ask," said Tony Pratt, the state's shorelines and waterway administrator. "By the middle of [this] week, we'll have better knowledge as to what avenues are open to us to explore."

State and local beach officials have credited the dunes with defending their towns' homes and boardwalks from the storm's wrath.

Taking an opposite view is Orrin H. Pilkey, emeritus professor in the Nicholas School of the Environment at Duke University and author of "The Corps and the Shore" and this year's "The Rising Sea," which he co-authored.

Pilkey said it would be a huge error for Delaware to ignore science and not plan for the inevitable approach of climate change and rising seas. He pointed to the damaging Ash Wednesday storm of 1962, when the Army Corps of Engineers erected a dune along the shore in Ocean City, Md., and issued an advisory to restrict development inland of the protective barrier. But homes and hotels eventually moved oceanside, on top of and across the dune.

"The town paid no attention to it -- it had no teeth," Pilkey said. "Money speaks -- so away we went."

And tourist dollars drive much of the beach economy.

Coastal community leaders said Saturday they were crossing their fingers that the waves would send enough sand back up onto the beaches that human assistance wouldn't be needed to finish the replenishment, shoring up the resorts in time for the economically vital summer.

Beach replenishment is a costly endeavor. A project earlier this year in Dewey Beach alone cost \$6 million.

"We're hopeful that Mother Nature will do her job," said Carol Everhart, executive director of the Rehoboth Beach-Dewey Beach Chamber of Commerce.

Waiting for water to recede

Meanwhile, residents up and down the coast and along the Inland Bays waited Saturday for the

canals running by their homes to become streets again, so they could park in front of their houses or venture into crawlspaces and basements to check out the damage.

Floodwaters surged high again with the tides Saturday on the bayside in Dewey Beach, where June and Wilbur Bush have been fielding calls from out-of-state neighbors worried about their resort cottages.

"I tell them, 'Your rooftops and shingles are OK. ... Just stay home,'" June Bush said.

Thursday's winds whipped the rain into a frenzy, creating channels that flowed down Del. 1 and met up with the flooding bays, she said. Their own home was largely spared, though water puddled deeply down the street and their backyard was strewn with debris and overturned chairs and tables.

"It looks like a cyclone hit," June Bush said. "That adds to the whammy of all the water."

State transportation crews continued work clearing sand from the lanes of Del. 1 around the Indian River Inlet Bridge, washed onto the highway as the dunes were breached at Delaware Seashore State Park.

Delaware Department of Transportation spokeswoman Tina Shockley said the bridge and Del. 1 should be open by 2 p.m. today, after workers finish clearing the road and a DNREC inspector checks the bridge's piers in the inlet channel.

"They're not concerned that something is wrong -- they're just doing it as a precaution," Shockley said.

On the beaches, state crews will begin cleaning up this week -- removing fencing, salvaging fence posts, clearing away debris -- while judging how much beach rebuilding will be needed, said Pratt, with the Department of Natural Resources and Environmental Control.

The waves will do a substantial part of the work, returning sand to the beaches, but DNREC crews will use bulldozers to help plow more sand back into place to protect the coastline, he said.

Officials from the U.S. Army Corps of Engineers also will be on site this week to inspect multimillion-dollar beach replenishment projects in Fenwick Island, South Bethany, Bethany Beach, Dewey Beach, Rehoboth Beach and Lewes, Pratt said.

Some people checking out the damage Saturday questioned whether the artificial efforts are really worth it.

"That beach replenishment was for naught -- kind of a waste of money," said Monty McMullen, of the Long Neck area, who was out with a metal detector early Saturday on Dewey Beach, walking through soapsuds-like surf on the thin strip of dirty beach that remained.

Sea level rising, professor warns

Pilkey, the Duke University professor emeritus, said rising seas will someday force Delaware and other oceanside states to make serious choices about moving developments inland.

Sea level is rising at a rate of about a foot a century. Whether that increases as polar ice sheets and mountain glaciers melt and ocean temperatures climb -- or even if climate change slows -- maintaining beach developments for another 50 or 100 years is going to be increasingly hard and costly.

"By the time the sea level rises 3 feet, there's no way you're going to keep the shoreline in place, except with massive sea walls," Pilkey said. "All this is going to happen this century, in our view. We're talking about something my grandchildren and great grandchildren will see."

Since 2001, the Army Corps and others have spent \$100 million pumping sand from the ocean onto Delaware's beaches. Building sea walls will cost much more -- a sea wall built in Galveston, Texas, cost \$10,000 a foot. In April, the corps awarded a \$10.4 million contract for emergency repairs at the Galveston Seawall because of damages caused by Hurricane Ike.

"At the same time you're going to need all this money, Miami is in trouble, and Boston, and Newark

and New York. And Rehoboth and Ocean City are not going to beat out Manhattan. Manhattan is going to trump you all," Pilkey said. "I think the future is very grim."

But state and local officials have roundly praised the built-up dunes as critical in preventing further damage from the storm.

Rep. Mike Castle, R-Del., pledged Friday to find federal money to help repair the beaches, and Gov. Jack Markell's spokesman said the governor would work with DNREC and the congressional delegation to identify funding sources.

Everhart said a slim silver lining is in the timing of the beach bashing -- officials can keep an eye on the beach's own natural replenishment efforts through the winter. A spring storm would have given less chance to evaluate the situation, she said. And coming closer to the summer, the storm could have wreaked havoc on the newly rebuilt Rehoboth boardwalk.

While Dewey Beach saw some erosion, with water laying the dunes bare for about 10 feet, it wasn't as bad as in Rehoboth, where part of the dunes were washed away, she said. "It certainly could have been worse," Everhart said.

Walking along the Rehoboth boardwalk, Carol and Don Stark of Elizabethtown, Pa., paused to check out the damage to the dune, which looked like a piece of birthday cake with a bite taken out of it.

The couple has been coming to the beach during the offseason for 25 years, and has never seen damage this bad, they said.

"That's really severe erosion," Don Stark said.

Beach work will begin once the weather dies down a bit more, Pratt said.

"The tides are still too high to do much of anything," he said.

Officials are concerned, though not overly so, about potential damage from another storm hitting Delaware in the interim, Pratt said. He said it's impossible to predict at this point if the dunes could be breached again.

"The what-ifs are endless. We will have to take whatever comes our way," he said.

But even if another storm were to hit today, the sand washed away from the dunes will still be of some help, creating a larger near-shore sandbar system that serves to break the waves' energy as they pound the coast. That effect was apparent Friday afternoon, Pratt said.

"The waves really were breaking quite a distance from the dune by the end of the day ... and losing a tremendous amount of their energy," he said. "I like it better when the dune is whole, [but] that sand is still serving a great service. ... It's not like a total loss."

He said the recent replenishment efforts bolstered Sussex's coastline so much that even after the damage from Ida's remnants, the beaches are still in better shape than four years ago.

"There was less beach than there is now, far less dune than there is now," Pratt said. "Even though we've had a great sacrifice of the dune, we're still far better than we were."
