

Along the coast, residents consider how to heed Sandy's warning of what's to come

Story and photos by David Gregorio

Lydia Silvas, who lives in the Seaside Village section of Bridgeport about a quarter mile from Long Island Sound, remembers evacuating her home as Superstorm Sandy approached Connecticut in 2012.

That experience left a lasting impression.

“Every year from June to November my heart is in my mouth,” Silvas recalled in a recent interview at Leo’s Spanish Restaurant on Main Street in the city’s South End. She was sitting with her friend Maisa Tisdale, president of the Mary and Eliza Freeman Center for History and Community, which has renovated two nearby historic homes and hopes the historical and cultural project will help trigger a renaissance in the neighborhood.

To escape Sandy, Silvas headed north to stay with friends in Litchfield County. Her friend Effie Riddick, whose basement had been flooded by Hurricane Irene, evacuated

her Main Street house to stay further north in Bridgeport, with 146,000 residents the state’s most populous city.

At the time Sandy slammed the coastline with torrential rains and nine-foot waves, hundreds of homes and businesses were still reeling from Hurricane Irene a year earlier. Irene and Sandy dealt a devastating one-two punch to the state’s 24 shoreline communities. In the years since, more residents have joined with scientists and policy experts in recognizing that with the climate warming and sea levels rising, shoreline communities need to do more to prepare for “the new normal.”

One statewide response came last year, six years after Sandy. The state Legislature updated the pre-existing statutory language used to guide building and development to factor in sea level rise projections of 20 inches by 2050. Those projections are based on work done by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA).



Lydia Silvas, sitting on the front stairway of her home in Bridgeport, holds her hand to the height of the floodwaters during Superstorm Sandy.

Also last year, the state chapter of the American Planning Association issued a report concluding that the changing climate isn't just a future threat.

"Climate Change has already impacted the state through warmer water, erratic weather patterns and rising seas that cause tidal flooding in low-lying neighborhoods even on a sunny day," the organization said in its 2018 "Planning for Resiliency" paper.

For many residents, that planning association's conclusion was old news. Living through Irene and Sandy had already convinced them of the reality of climate change impacts in their own neighborhoods.

In Fairfield, Becky Bunnell recalled that her beach house was flooded "up to the deck" from Irene, which made her "scared of Sandy." As the storm approached, she piled two feet of sandbags on her deck and left to stay with her sister in Wilton.

In West Haven, Mark Paine, assistant manager to the city public works commissioner, recalled that about a dozen families evacuated their homes near Old Field Creek, a salt marsh across Beach Road from Sandy Point. They had been swamped by Irene, and frequently got flooded during Nor'easters.

But at least those folks evacuated. Many other residents got swamped along with their homes. A 2015 study by Yale University researcher Jennifer Marlon found that only 27 percent of coastal Connecticut residents in the zone closest to the shoreline evacuated ahead of Sandy. Her work was funded by the National Oceanic and Atmospheric Administration's Coastal Storm Awareness Program, an initiative that includes Connecticut Sea Grant. Even after Sandy, the study found, most residents remained "ill-prepared for the significant safety and economic threats posed by severe coastal storms."

IMPROVING PREPAREDNESS

The findings made an impression on Juliana Barrett, coastal habitat specialist at Connecticut Sea Grant. Two statistics hit her especially hard: 70 percent of coastal residents remained unsure whether their home was in an evacuation zone and 74 percent of state residents had never even seen a local evacuation map.

"This really bothered me," she said.

In response, Barrett, the Connecticut Sea Grant point person for climate change, joined with Emily Wilson, a UConn Extension educator, and UConn student Zachary Guarino, to address the

Barrett, Wilson and Guarino's story map shows details of flood zones, evacuation routes and other information on maps for four coastal towns: Madison, Stonington, East Lyme and Old Lyme. Barrett hopes to expand the pilot project and ultimately include all of the state's coastal communities in the story map.

This was just one of several projects that came out of the Coastal Storm Awareness initiative, which involved several states.

"The National Weather Service really took the results and recommendations that came out of several of the CSAP projects to heart," Barrett said.

For example, a new standardized template for storm briefings used by all Weather Forecasting Offices in the National Weather Service's Eastern Region incorporates recommendations from a CSAP project led by the Nurture Nature Center in Pennsylvania. Based on community feedback, the researchers recommended design changes to improve the visual and graphic clarity of the briefing information to make it more readily understood.

AFTER THE STORM

For now, Sandy remains the frame of reference about the risks of shoreline living for many residents, brought to mind whenever a new storm threatens.

Bunnell recalled how Sandy's waves washed beach sand through houses, out doors and windows and onto Fairfield Beach Road. East of the peninsula and down the road at the town-owned Penfield Beach, the waves lifted the pavilion off its foundation and washed the west wing into the parking lot.

Farther east and a few blocks north of the beach, the water surged through the back door of Dick and Karen Dmochowski's home. The couch in their living room was spared only because they had it up on cinder blocks.

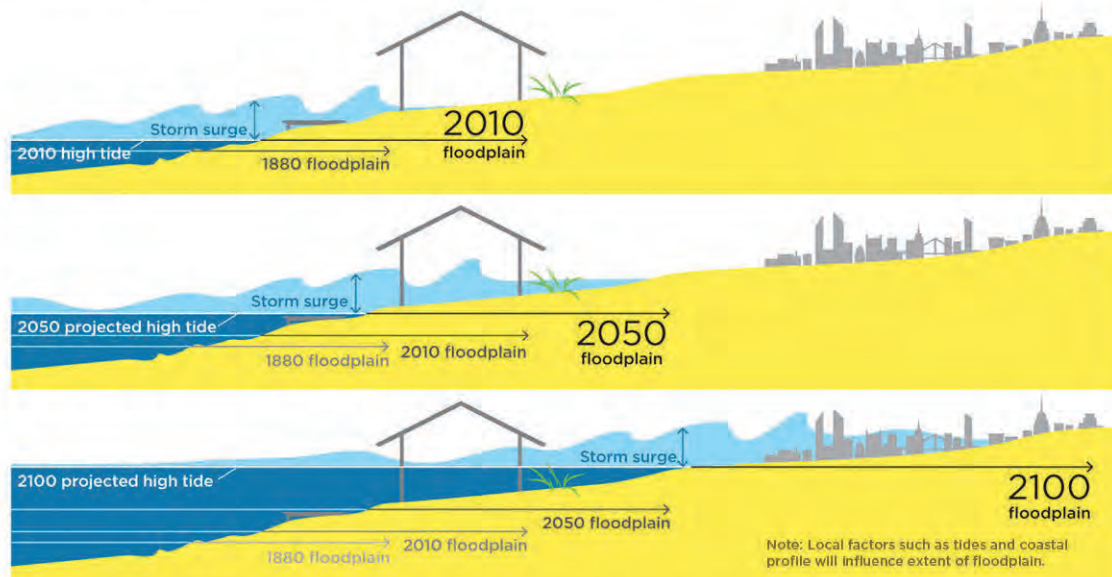
"We got two dumpsters full of stuff you think you need until it gets flooded



Becky Bunnell, seated in the yard of her beach house in Fairfield, recalls that flooding during Hurricane Irene made her 'scared of Sandy' as it approached, prompting her to evacuate.

problem. They started working with state and local officials to reinforce access to storm alerts, online evacuation routes and other information through a Coastal Storm Preparedness Story Map – a kind of digital emergency preparedness guide. Funding from NOAA and Sea Grant supported the project.

Storm Surge and High Tides Magnify the Risks of Local Sea Level Rise



Sea level sets a baseline for storm surge—the potentially destructive rise in sea height that occurs during a coastal storm. As local sea level rises, so does that baseline, allowing coastal storm surges to penetrate farther inland. With higher global sea levels in 2050 and 2100, areas much farther inland would be at risk of being flooded. The extent of local flooding also depends on factors like tides, natural and artificial barriers, and the contours of coastal land.

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Superstorm Sandy and Hurricane Irene flooded many of the homes that line Fairfield Beach Road on the narrow peninsula between Pine Creek and Long Island Sound. Many homeowners in this neighborhood were among the 69 Fairfield residents who elevated their homes through the Shore Up Connecticut program.

and then you realize you didn't need it," Dick Dmochowski said with a chuckle. His house was among dozens in Fairfield that have been elevated through Shore Up Connecticut, a state assistance program. All the electrical boxes and appliances are now above the 500-year flood line.

After Sandy, Bunnell and her family drove back to their neighborhood, parked their car and hiked across Pine Creek at low tide to their beach house. It was not flooded, thanks to the sandbags, but "the deck was covered with sand" that the tide had pushed all the way to her home. She also took advantage of Shore Up Connecticut to elevate her house. It provided loans for elevation costs and a state reimbursement of 75 percent. During a recent interview, Bunnell stood on the now elevated deck and pointed down the stairs to the beach, where the deck and the sliding doors used to be.

"We got lucky," she said. She and the Dmochowskis were among 69 Fairfield residents who took advantage of the Shore Up program.

Dmochoski, a retired engineer,

said his awareness was elevated along with his home; he joined Fairfield's Flood and Erosion Control Board. He believes many homes, especially on the peninsula, need seawalls to prevent the sand from being washed out from beneath the elevated homes. Bunnell laughed and said she believes her elevated beach house has a better chance of surviving than the beach it sits on.

"My feeling is that when I'm 82 my house is elevated so the house will be here but I may have to take a boat to get to it because the beach could all be eroded," she said.

SALT MARSH RETURNS

In West Haven, Paine drove his city vehicle off Beach Road along the Morris Park ball fields, then turned and parked on a bridge looking toward the Sound down Old Field Creek. Just beyond the ball fields was a creek with an osprey platform. From there to the next street was now a wetland with marsh grass and trees. In the years since Sandy, almost every house that stood there has been purchased and demolished by the city under a federal program that paid residents

the pre-Sandy value of their homes.

Paine said returning the flood plain to its natural state as a salt marsh will not only conserve wildlife habitat, but also provide a natural buffer to reduce future flooding and storm damage for nearby homes that remain. It will also expand and enhance the habitat and shelter for migrating birds that already flock to Sandy Point.

"We're not doing a park; we're not doing a playground," Paine said. "It's an open space easement. We're going to let this go back to its natural setting. The deer, fox, coyote, turkeys that are already here will have a better habitat."

He said it took a few years of meetings between worried residents and concerned municipal, state and federal officials, but the city was ultimately able to acquire every owner-occupied house in the neighborhood. The few houses that remain are rentals owned by absentee landlords.

"The water was up to these lawns," he said. "Every one of these houses had a full basement. They were

getting flooded out very frequently. The Nor'easters in the wintertime are actually worse than the hurricanes. This whole road was completely underwater during the storm [Sandy]. The waves were basically rolling right across Beach Street and into Chick's Seafood Restaurant. We had four to five feet of water."

"JUST SURREAL"

Just 17 miles to the west in Bridgeport, residents are trying to figure out what it means to become a more resilient community as Sandy's impacts remain fresh in their minds.

Silva recalled returning to her Seaside Village neighborhood in Bridgeport after Sandy to find her basement flooded "to the rafters." She lost her family photo albums and electrical appliances. Tisdale drove down to Main Street from her home in Trumbull to check on the Freeman houses.

"The scene was just surreal," she said.

"People's cars had floated away. ... One car had floated on top of a fence," she recalled. "After the water pulled out, it set down the car and squished the fence. There was four feet of water inside a hair salon. The tide went back out from the streets, but the water that went into buildings stayed in there. The sign for this Spanish Restaurant (Leo's) had floated two blocks away to that church way over there."

Tisdale, who has devoted a lot of time and energy to the Freeman Center project, in February helped to organize the neighbors to attend the Resilient Bridgeport Public Hearing and Design Workshop. They gathered at the Schelfhault Gallery at the University of Bridgeport for the presentation. Resilient Bridgeport is a state Department of Housing plan developed in response to Sandy "focused on protecting homes, businesses and infrastructure in the South End of Bridgeport from chronic and acute flooding in order to foster long-term prosperity in the neighborhood,"



Dick and Karen Dmochowski's home was raised after Sandy. The experience prompted Dick Dmochowski to join Fairfield's Flood and Erosion Control Board.

'Climate resilience and adaptation efforts must balance public use, private property rights and protection of natural resources... In Connecticut, we are seeing individuals, local groups, municipalities, universities and state agencies doing exactly this.'

– Juliana Barrett

according to the program website.

RESILIENT BRIDGEPORT PLAN

At the hearing, Tisdale and other residents looked at scale models and heard officials, architects and urban planners give the project overview. It included water removal from a railroad underpass, and creation of "green streets" to reduce runoff volumes and flooding and channel floodwater to an overflow area at Seaside Park. From there, water can drain back into the Sound at low tide. There are plans to separate storm water from sewer drains and install a pump that removes excess runoff from the lowest-lying areas and reduces flood risk.

The most contentious part of the plan is a 16-foot flood wall in the South End. Main Street residents and businesses want the wall as far to the east as possible. But officials say that option would require an agreement with the electric company PSEG, which owns the Bridgeport Harbor Generating Station.

Riddick and Silvas asked several questions, and worried that building a 16-foot flood wall along Main Street could ruin the character of the neighborhood. Tisdale gave an impassioned speech about how a big wall could hurt plans for the Freeman Center and the South End.

She said the resilience plan needs to serve "current residents who were loyal to Bridgeport and have lived here come hell or high water. My family is six generations here in Bridgeport. We've seen development plans come and go."

Rebecca French, director of resilience at the state housing department, said that the project presents "quite a challenge design-wise to come to a meeting of the minds about how best to protect a community from both storm surge and coastal flooding."

But clearly it's a challenge the state and its residents will have to learn to meet as sea level rise and storm surge continue to accelerate. As a diagram from the Union of Concerned Scientists points out, rising sea levels mean that storm surges will penetrate even farther inland than during Sandy, so more areas are at risk of flooding.

"Climate resilience and adaptation efforts must balance public use, private property rights and protection of natural resources," Barrett said. "While trying to balance these three areas may be seen as one of the most difficult aspects of moving forward, it also presents the opportunity for diverse groups to come together to find creative solutions to issues that are with us for the foreseeable future. Here in Connecticut, we are seeing individuals, local groups, municipalities, universities and state agencies doing exactly this."