



South Shore Estuary: Options to Reduce Flood Risk to Your Home



Department
of State

South Shore
Estuary Reserve

New York Sea Grant

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Westhampton Beach community immediately after Superstorm Sandy October 30, 2012 (left) and the same area October 9, 2017 (right).
Image credit: (left) Doug Kuntz/*Newsday* and (right) Kevin P. Coughlin/*Newsday*

Background

The South Shore Estuary is surrounded by densely populated communities totalling 1.5 million people including on the main island and barrier islands. Long Island's south shore has low elevation making these communities particularly susceptible to flooding during high tide events and strong storms, such as nor-easters and hurricanes. In 2012, property owners witnessed just how susceptible they are to flooding in the aftermath of Superstorm Sandy. Approximately 100,000 residences¹ were damaged, of which 2,000 were deemed no longer habitable. In total, Sandy cost New York State more than \$42 billion² in damages.

While living in a coastal community means there is always some level of risk, there are many different options to reduce your exposure to risk from flooding

events. Proposed construction activities within the coastal areas of Long Island requires the property owner to apply for permits. Upfront and maintenance costs can be a major consideration for property owners. In addition to any associated financial costs, there are also considerations of the impacts on the natural environment and coastal processes. Non-structural measures provide flood risk reduction to your property while also allowing for natural processes and water movement to continue to occur. Structures should be proposed along shorelines where non-structural alternatives will not provide the necessary level of protection. The following are some non-structural options most feasible for South Shore Estuary Reserve residents; however, they are very site specific and may not work for your individual property.

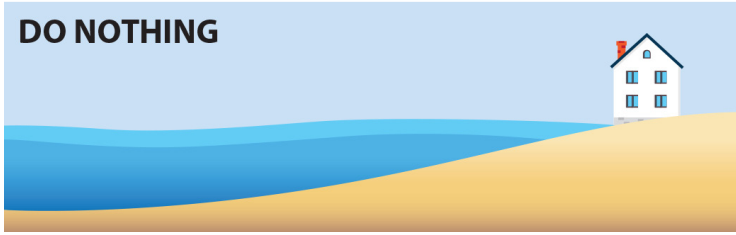
¹https://www.ag.ny.gov/pdfs/Sandy_1yr_Report.pdf

²<https://www.newsday.com/long-island/officials-sandy-destroys-more-than-2-000-li-homes-1.4316744>

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Options

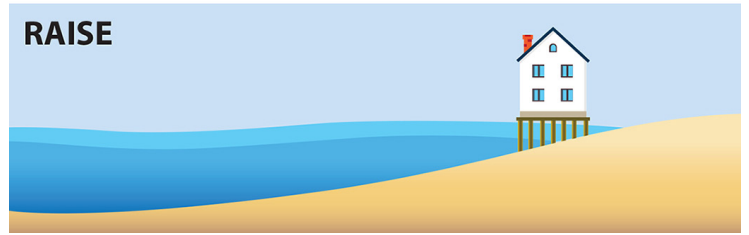
DO NOTHING



The erosion and accretion of sand along our shores and a certain amount of flooding are natural processes. Since the constant restructuring of the coast is a natural process, doing nothing in response to erosion could be an appropriate choice if:

- (a) erosion and risk to any structures or critical habitat is minimal
 - (b) your property has natural protective features and/or any structures on the site are set back away from the coastline
- Pro: Low cost, easy to implement
 - Con: Unexpected results, such as future flooding impacts and possible loss of land

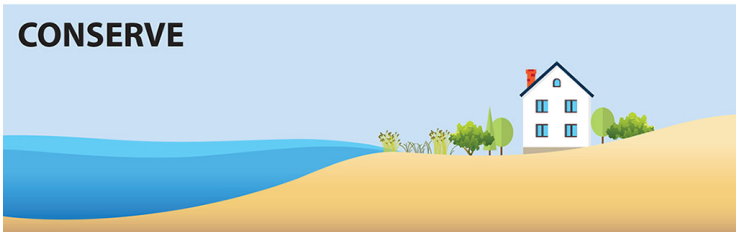
RAISE



One approach to reducing structural damage due to flooding is to raise the structure on your property. When raising a structure, flow-through or pile foundation are common ways to achieve results. Flow-through foundations allows flooding waters and debris to pass under the house while reducing erosion around the foundation, which can cause structural failure. When raising a structure consider elevating above the recommended base flood elevation plus two feet (to the design flood height) to account for sea level rise but be sure to check local zoning codes for height restrictions.

- Pro: Reduces flood hazard impacts and may reduce flood insurance premiums.
- Con: This approach can be expensive and there may be height restrictions depending on local zoning codes. Additionally, this approach doesn't reduce stormwater energy or reduce shoreline erosion.

CONSERVE



While sand dunes have seasonal fluctuations of sand loads, they do serve as a natural protection against storm surges and waves, which can reduce coastal flooding and damage to structures. In areas where dunes already exist with low to moderate erosion, protecting the sand dunes will help maintain protection against storms. Planting native beach grass, installing fencing, and designating walkovers will protect stable dunes. Walkovers must be high enough that they are not cutting into the dune. Additionally, healthy sand dunes are dependent upon a healthy beach system.

- Pro: Low cost, enhances habitat
- Con: Fencing can be easily damaged in a storm and may restrict wildlife access to critical habitat. Dunes respond dynamically to storm events. Sand dunes do not protect against long term erosion or reduce stormwater energy.

RELOCATION



A sure way to reduce significant risk to flooding is to relocate out of the hazardous flood areas altogether. You can accomplish this by selling your home and moving to a new location; however this will expose a new buyer to the flood risk. If the size of your property allows, you can move your home further landward of the flood area. You could even purchase a new lot of land outside of the flood area and literally move your existing home to the new property allowing your abandoned parcel to return to nature. After Superstorm Sandy, some property owner chose not to rebuild their homes and allowed nature to take back the flood prone area. If you have the option to participate in a buyout program, you can sell your property to the government and it can be restored to natural land. Contact your local emergency agency to see if a buyout program is available in your area.

- Pro: It is the most effective and long-term option and depending on where you move, significantly reduces risk of flooding and erosion
- Con: Relocating is expensive and can be technically challenging. Depending on where you move, it can be time consuming and create a loss of historical ties and community connections.