

# TUWaterWays

Water News and More from the Tulane Institute on Water Resources Law and Policy  
November 1, 2017

## Off the (Sea) Wall

Five years after Superstorm Sandy, local and federal officials are [discussing](#) the building of a [\\$620 million dollar](#) sea wall to protect Staten Island's east shore. As sea levels rise and as the [strength of storms intensify](#), many coastal cities may find themselves exploring the possibility of a sea wall. Sea walls are commonly concrete structures that can be [vertical, curved, or mound](#) shaped. They are designed to prevent coastal erosion and flooding by *reflecting* most of the wave energy back to the sea rather than *absorbing* it like a natural coastline would. But, energy cannot be created or destroyed, [right](#)? So, where is this reflected energy going? The energy goes down, deepening the water at the base of the sea wall and eventually causing its [collapse](#), it goes backward, causing offshore vegetation loss, and it goes sideways, transferring the problems of coastal erosion and flooding to your neighbors.

Researchers looking to improve the sea wall's impact on intertidal habitat have had [success](#) in drilling holes into sea walls that were swiftly colonized by fish, anemones and important reef-building honeycomb worms. They have also designed an experimental form of concrete, dubbed Reefcrete, which is more hospitable to sea life than regular concrete because it is less alkaline and traps more water.

Others are looking for alternatives to the traditional sea wall. One high-tech alternative to is a floating [energy generator](#), which captures wave energy. Another, more natural alternative, is a [living shoreline](#), which uses [plants, sand, and a limited amount of rock](#) to provide shoreline protection and maintain valuable habitat. The National Oceanic and Atmospheric Administration says that they are working to implement this more natural bank stabilization process that can [absorb and dampen more energy](#) than the traditional sea wall.

## BUFFERING, PLEASE WAIT...

Wednesday is going to be a great day: [Halloween candy](#) will be on sale, there is going to be a new episode of [Broad City](#), and it is the deadline for Minnesota farmers and landowners to install [water quality buffers](#). The [Minnesota Buffer Law](#), passed two years ago, required new [perennial vegetation buffers](#) on 400,000 sites statewide. These buffers help filter out phosphorous, nitrogen, and sediment before it reaches streams and rivers. Preventing agricultural pollution from making it to the Great Lakes can help prevent algae blooms which have been so severed that Toledo, Ohio was forced to [shut down the](#)

The **Tulane Institute on Water Resources Law and Policy** is a program of the Tulane University Law School.

The Institute is dedicated to fostering a greater appreciation and understanding of the vital role that water plays in our society and of the importance of the legal and policy framework that shapes the uses and stewardship of water.

## Coming up:

November 7-8, 2017

[Louisiana Smart Growth Summit](#)

Shaw Center for the Arts, Baton Rouge

## Water jobs:

[Program Director for Land, Water and Nature Program](#)

Resources for the Future  
Washington, DC

[Senior Water Resources Management Specialist](#)

World Bank  
Washington, DC

[Intern for Water Policy](#)

Northeast-Midwest Institute  
Washington, DC

[Senior Manager, Investor Engagement, Water Program](#)

Ceres  
Boston, MA

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[drinking water supply](#) of a half-million residents for three days in 2014 (you're not alone, [Gulf of Mexico](#)! You have company at a really crappy party!). Some [Minnesota residents](#) feel that the buffer law does not go far enough to mitigate the effects of agricultural runoff while others are frustrated that farmers aren't compensated for the lost income of the buffer. However, it is now estimated that these buffers have been installed in 95 percent of required sites. If this isn't enough to get the job done, [The Daily Show](#) has proposed a unique solution to fostering awareness of and appreciation for our Great Lakes which contain 21% of the world's surface fresh water (by volume).

### **Standing Rock Update**

It has been one year since hundreds of law enforcement officers descended on the largest Dakota Access Pipeline resistance camp. Before the violent confrontation, the Standing Rock Sioux Tribe sued the Corps, arguing that the pipeline destroyed sacred sites and threatens the water quality of the Standing Rock Indian Reservation that sits downstream of the site where the pipeline crosses the Missouri River in North Dakota. [Native historians](#) say that the land would still be controlled by the Great Sioux Nation if the Fort Laramie treaties in 1851 and 1868 had been honored. Only an act of Congress can abridge a treaty, opening un-ceded territory for non-native settlement, but that never happened here.

In regards to the lawsuit, this summer, [the DC federal district court found](#) that the federal permits authorizing the pipeline to cross the Missouri River just upstream of the Standing Rock reservation, which were hastily issued by the Trump administration just days after the inauguration, violated the law in certain critical respects. [Several weeks ago](#), a federal judge ruled that the Dakota Access pipeline can continue operating pending an environmental review by the U.S. Army Corps of Engineers. Although the Court found that shutting down the pipeline would not cause major economic disruption, they refused to shut down the pipeline while the environmental review is completed. A year later, two other pipeline fights – against Enbridge Line 3 and Keystone XL are brewing nearby.

### **Get the [Lead](#) Out**

[Gitanjali Rao](#), an eleven year old scientist, won a Young Scientist Challenge for her lead detection device. When she learned about the Flint water crisis at nine years old, she was surprised that there wasn't a fast, reliable process for testing water for lead so she worked to create one. Perhaps most inspiring, this very intelligent eleven year old has state that she "feel(s), every individual has a right to know if their drinking water is safe."

### **Happy Halloween!**

Water can be spooky! Did [this picture](#) capture a coincidental configuration of air bubbles or an underwater apparition of a skeleton? You decide.