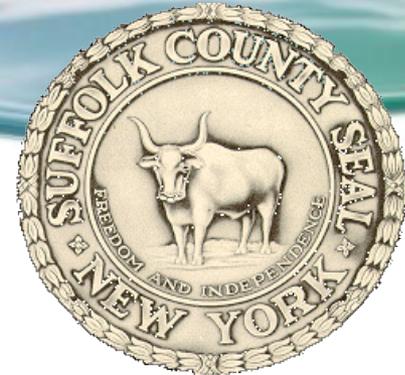


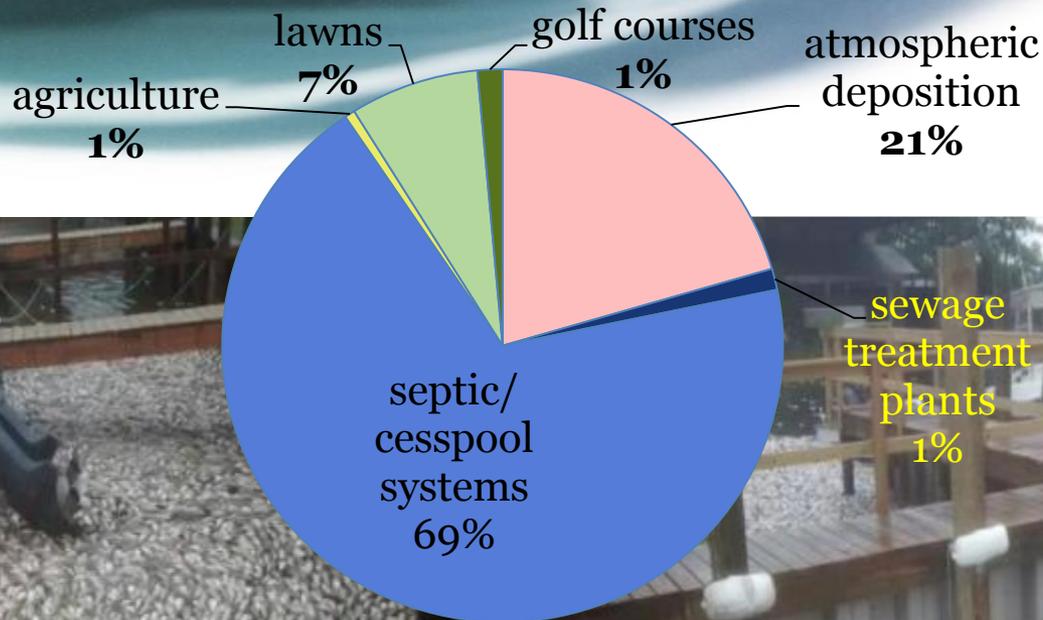
SUFFOLK COUNTY'S RECLAIMING OUR WATER INITIATIVE



STEVE BELLONE

SUFFOLK COUNTY EXECUTIVE

Reclaiming Our Water



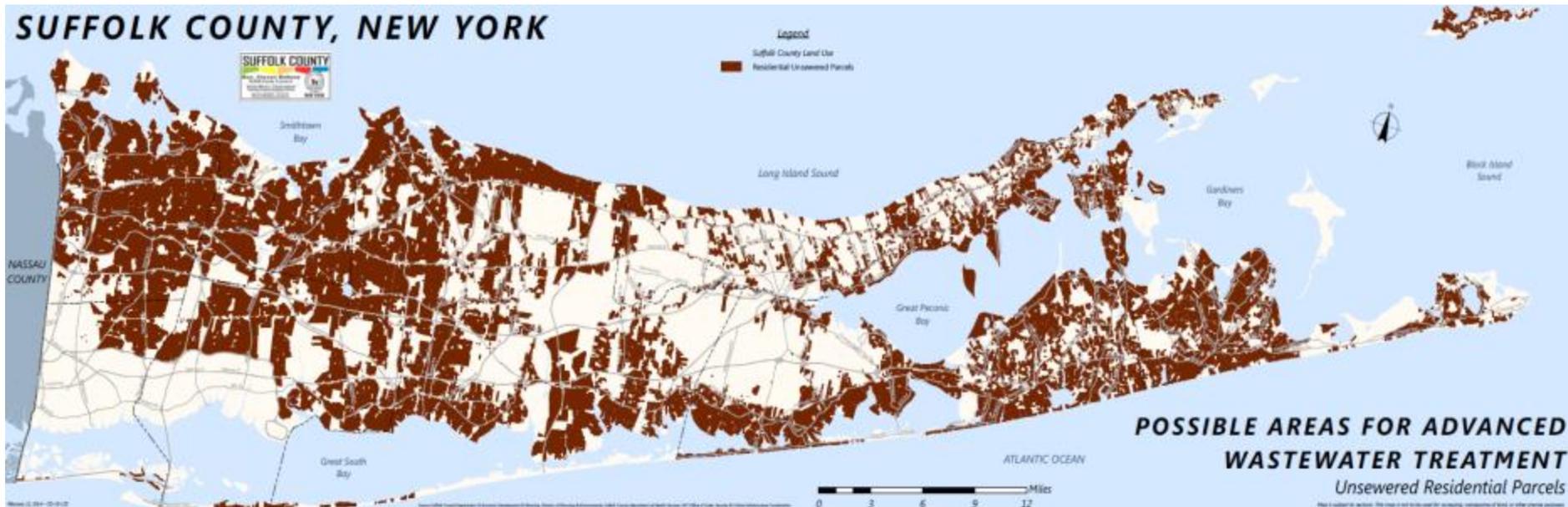
May – June 2015



74% NON-PERFORMING WASTEWATER TREATMENT



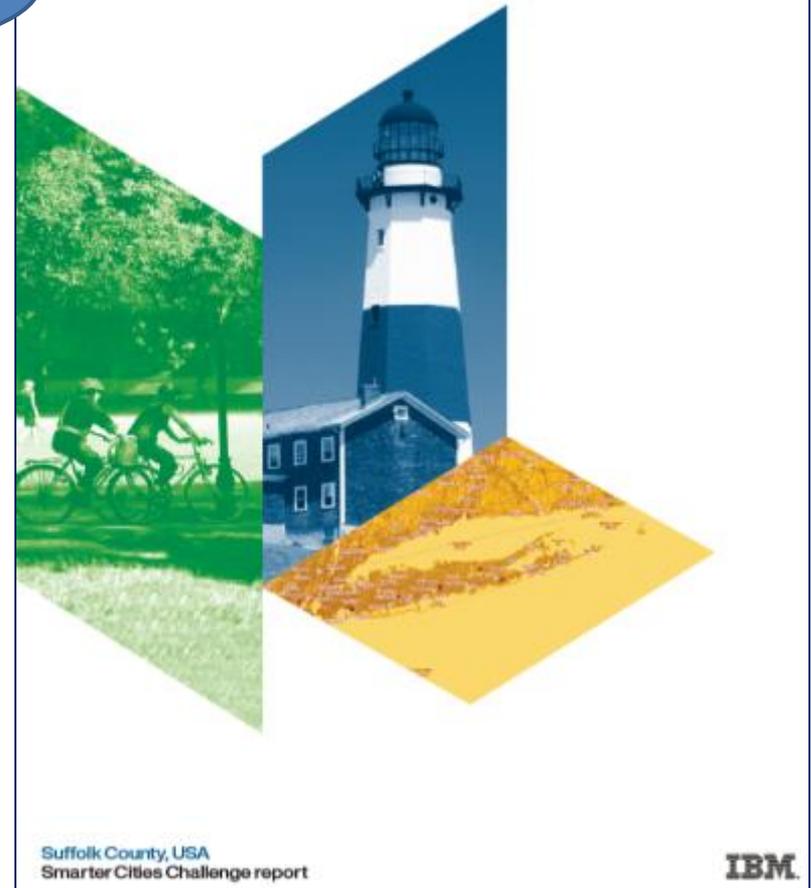
- Approximately 360,000 onsite sewage disposal system
- 209,000 systems in priority areas
- Approximately 252,530 pre-date requirement for septic tank





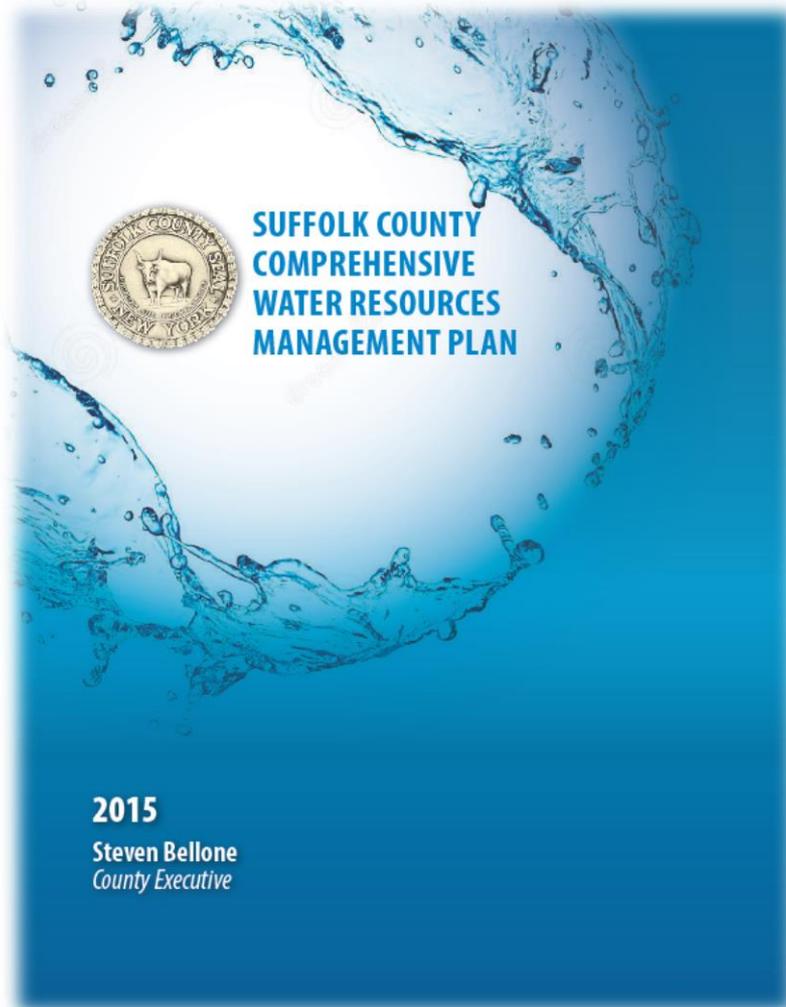
ACTIONS TAKEN: IBM SMARTER CITIES CHALLENGE

\$8 B



“The people of Suffolk County clearly prioritize the quality of their water...but they need help developing and implementing a plan to improve and protect water quality...a common perception is that failing septic systems are the cause of nitrogen pollution when in fact, on-site septic systems are not designed to remove nitrogen in the first place.”

SUFFOLK COUNTY COMPREHENSIVE WATER RESOURCES MANAGEMENT PLAN 2015



Topics Include:

- Value of Water
- Ways/Means to Protect Water Quality
- Wastewater Treatment
- Coastal Resiliency
- Nitrogen
- VOCs
- Pesticides
- Pharmaceuticals & Personal Care Products
- Watersheds & Integrated Ecosystem Health



**COUNTY WASTEWATER
APPROACH**

***Innovative Alternative
Septic***

Neighborhood Cluster

Sewers



SUFFOLK COUNTY COASTAL RESILIENCY INITIATIVE

\$388 MILLION FOR SEWER PROJECTS



TOP STORIES

\$388M for sewers

NY and federal aid aimed at fighting nitrogen pollution

BY DARRAN SIMON
darran.simon@newsday.com

Suffolk County will receive \$388 million in state and federal recovery aid to extend sewers to 12,000 homes along the South Shore, Gov. Andrew M. Cuomo's office announced yesterday.

The money includes \$24.2 million for an initial design and environmental review phase, which could take at least 18 months. The construction phase will use \$364.3 million to improve sewer infrastructure in Suffolk in an effort to stem nitrogen pollution and bolster coastal protection.

The plan would hook up homes in North Babylon, Deer Park, Oakdale, Mastic, Mastic Beach and Shirley.

"This money allows us to take the first significant actionable step toward building the necessary waste water infrastructure," said Justin Myers, a spokesman for Suffolk County Executive Steve Bellone.

The money will pay for the construction of new collection systems in the Carls, Connecticut and Patchogue rivers watershed areas that connect thousands of residential, commercial and nonvacant parcels to existing water conveyances and treatment systems, the gov-

ernor's office said.

A new water collection and conveyance system also will be built in the Forge River watershed, linking even more residential, commercial and nonvacant parcels to a new wastewater treatment plant to be built on the site of the Calabro Airport in Brookhaven.

The county had previously announced it was receiving the money.

Funding comes from the New York State Environmental Facilities Corporation's State Revolving Fund and the U.S. Department of Housing and Urban Development's Community Development Block Grant-

Disaster Recovery Program, Cuomo's office said. The federal Hazard Mitigation Grant Program also is helping fund the construction phase.

Myers said the project is the "single largest sewer infrastructure project" to come to Suffolk in a generation.

Cuomo, in a news release, said: "This funding allows Suffolk County to improve and expand its sewer system in a way that not only reduces threats to water quality and contamination, but also strengthens Long Island's coast to better withstand future storms."

A large portion of nitrogen comes from outdated septic systems in a county where 74 percent of homes are not connected to sewage treatment plants.

Of the 360,000 septic systems in Suffolk, more than 250,000 were built before 1972, when tanks were not required.

Excess levels of nitrogen have impaired waters, caused algae blooms, depleted oxygen levels and destroyed natural coastal barriers and storm buffers including marshland.

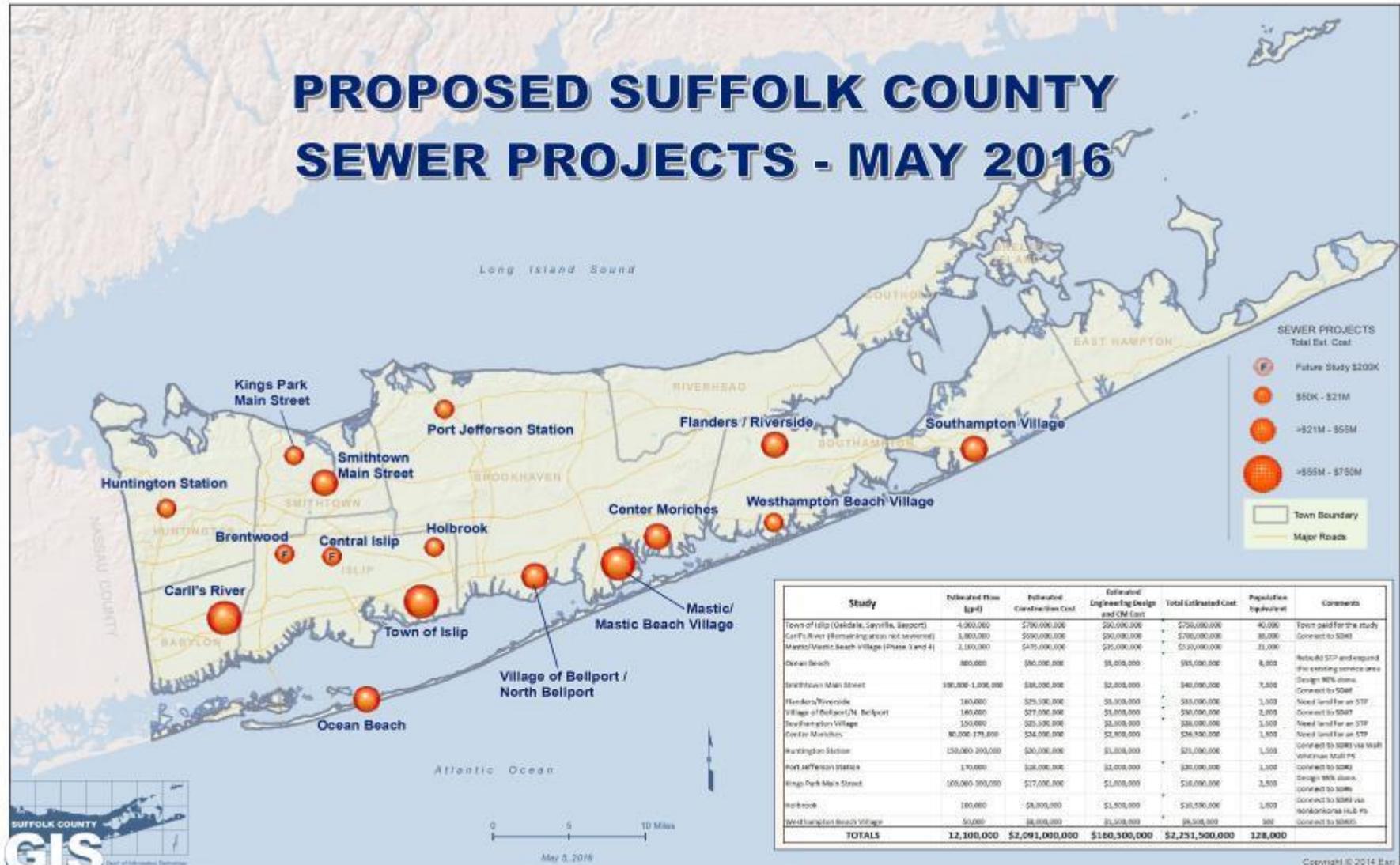
Completely bringing sewers to Suffolk would cost an estimated \$9 billion and remove 70 percent of nitrogen seeping into bays and harbors.

Bellone has made stopping nitrogen pollution from septic tanks and cesspools his top priority.

Cuomo's office said the first phase of the project has already begun and the money for that portion is being doled out.



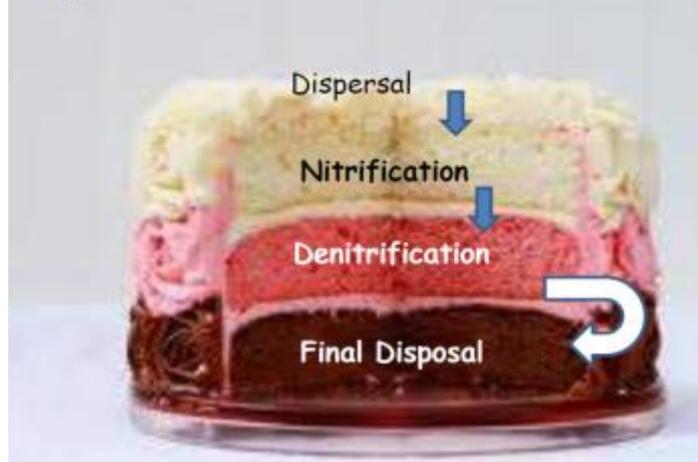
PROPOSED SUFFOLK COUNTY SEWER PROJECTS - MAY 2016



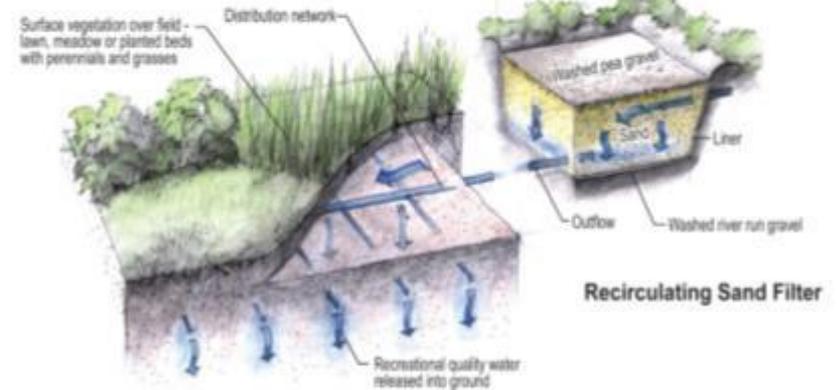


INNOVATIVE/ALTERNATIVE ONSITE WASTEWATER TREATMENT SYSTEMS

Layer Cake



Shallow Narrow Drain Field with Pressure Dosing



Subsurface Disposal Field

Recreational quality water released into ground



SEPTIC DEMONSTRATION PROGRAM (I/A OWTS)

➤ *Phase 1 - Septic Demo Program*

- Manufacturer Selection
 - 4 manufacturers selected to install 6 types of systems for a total of 19 systems
- Homeowner Selection
 - 19 homes selected throughout the County via lottery by Legislative District



➤ *Phase 2 - Septic Demo Program*

- 6 manufacturers applied to install 8 types of systems
- Homeowner Selection - over 207 Applicants
- 20 homeowners selected on July 26, 2016

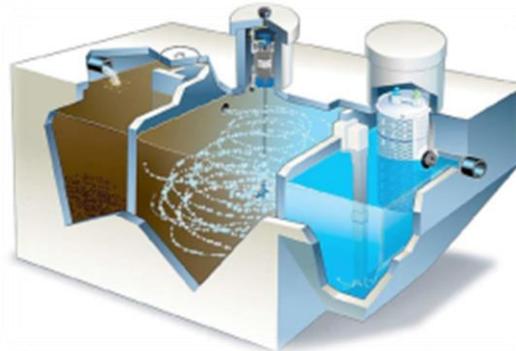




INNOVATIVE/ALTERNATIVE ONSITE WASTEWATER TREATMENT SYSTEMS PILOT



Norweco Hydro-Kinetic



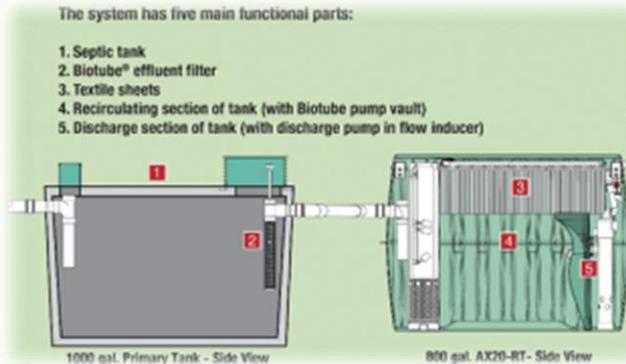
Norweco Singlair
TNT



Busse



Orenco AdvanTex
AX20



Orenco AdvanTex AX-RT

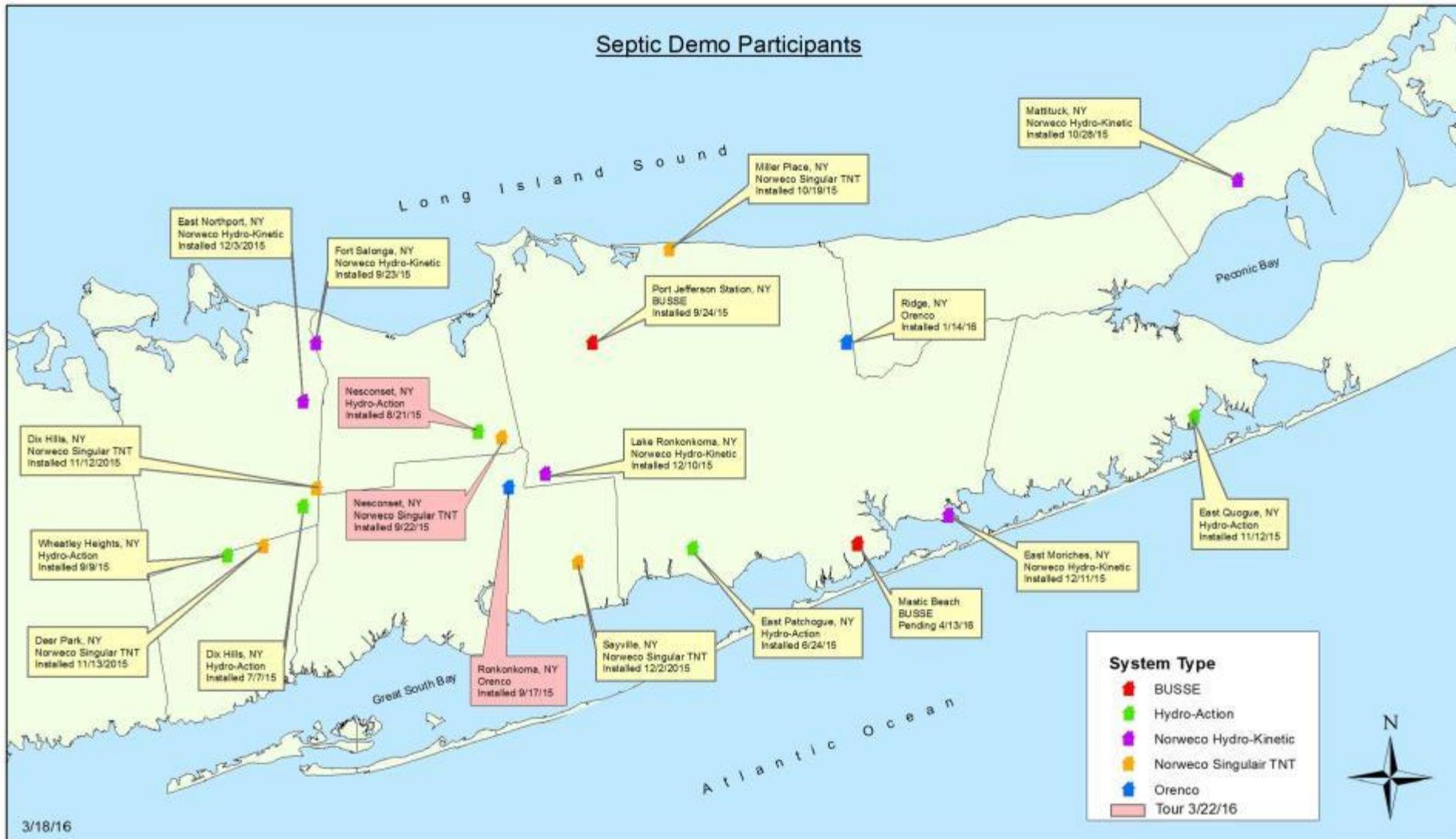


Hydro-Action



SEPTIC DEMO PARTICIPANTS – ROUND 1

Septic Demo Participants

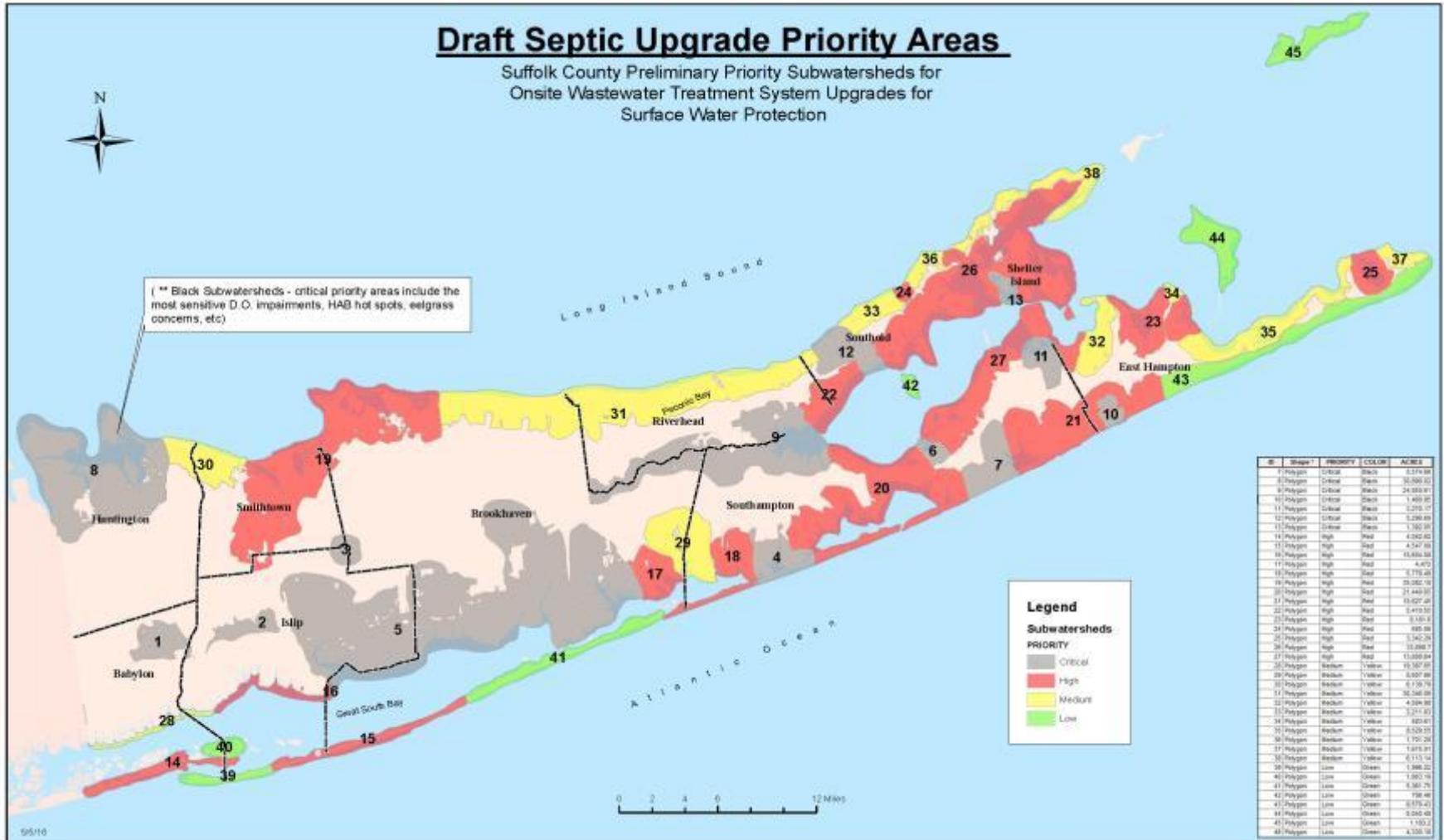




SEPTIC UPGRADE PRIORITY AREAS

Draft Septic Upgrade Priority Areas

Suffolk County Preliminary Priority Subwatersheds for Onsite Wastewater Treatment System Upgrades for Surface Water Protection



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MOSTLY SUNNY



EXCLUSIVE



Marshes on Fire Island, critical in buffering the coast from storm surges.

\$75M REFERENDUM ON WATER PROTECTION

- Suffolk wants voters to OK water-bill surcharge
- Cost would average \$73 a year per household

A2-4 | [UPDATES AT NEWSDAY.COM](http://updates.atnewsday.com)



EDITORIAL

Albany must act to clean LI water

Problem is clear. Now we need solutions.

Water quality is of paramount importance to Long Island and its sole-source aquifer. The State Legislature now appears to have recognized this.

The lawmakers — many from Long Island — listened Monday to dozens of scientists, environmentalists, elected officials and other experts testify about our region's water problems. And there are many, chief among them nitrogen pollution, which harms shellfish and other marine life, causes red and brown tides, and helps destroy marshes and wetlands. But the problems are well known by now. The difficulty is how to solve them, and how to find the money to do that.

So we were heartened to hear a healthy exchange between lawmakers and Suffolk officials about a county proposal for a public referendum for an annual fee on water usage. That would provide funding to help thousands of homeowners replace failing cesspools and septic systems, by far the major source of nitrogen pollution in the county. The give-and-take was a constructive step forward from the controversial and failed presentation of the plan last spring.

Suffolk proposes to ask voters whether they want to pay \$1 per 1,000 gallons of water used; county officials say that would raise \$74 million a year. That's a significant amount of recurring revenue that would help many of the 360,000 homeowners not connected to sewers. But placing such a referendum on the ballot requires approval by the State Legislature — the same lawmakers who held Monday's hearing, one of two statewide.

So they pressed County Executive Steve Bellone to flesh out the plan and, referencing the budget-challenged county's recent

history, they insisted that any new money be placed in a "lockbox" where it could not be used for other purposes. Both are legitimate concerns. Suffolk should listen to the feedback, explain the details and make sure the language is precise. Process matters.

Bellone, for his part, asked lawmakers to let Suffolk residents vote on the plan to reduce nitrogen and preserve groundwater, also a reasonable request. Since this is an election year, voters should ask candidates where they stand. And if they oppose the plan, what's their counterproposal? There may be other sensible funding ideas, but this one has promise.

Newsday

September 14, 2016



Rust tide, a product of nitrogen pollution, mars Flanders Bay in 2013.

ALBUQUERQUE COAST GUARD

Opinion

'Not the types set up by the printer return their impression, the meaning, the main concern.'



Water Fee Makes Sense

Water could well be Long Island's greatest resource. Clean and plentiful supplies of it are drawn up from the aquifer far below the surface of the land. The water that surrounds us in bays, inlets, Long Island Sound, support fishing and shellfish industries, provide an endless source of beauty, not to mention recreational opportunities.

EDITORIAL

Unlike many parts of the country where water is a rare and expensive commodity – something to be protected and used sparingly – here we abuse our water supply. Hundreds of thousands of cesspools leach untreated wastewater into the ground, while chemical fertilizers and pesticides that make our lawns greener and weed-free are allowed to run off into our waterways creating nitrogen-rich environments where harmful algae proliferates.

In recent years we have seen just how much harm we have done to our waterways. Countless beach closings, shellfishing bans and fish kills in oxygen-starved waters are evidence enough that we cannot continue to abuse our waterways.

Suffolk County is taking the lead on doing something about it. This week, County Executive Steve Bellone outlined a plan to raise revenue needed to begin to correct the problem. If all goes according to plan, a proposed surcharge on water use county-wide could go on the ballot for voter approval on Election Day later this year.

The Water Quality Protection Fee would impose a \$1 surcharge per every 1,000 gallons of water used to generate an estimated \$75 million annually to fund upgrades and

improvements to wastewater infrastructure. The county exec, who has made water quality a top priority, wants the more than 360,000 cesspools and septic systems in Suffolk replaced with more efficient systems. Funding would also be provided to municipalities to upgrade sewage treatment plants and extend sewage services to areas currently unserved.

It makes sense.

We have seen the effect that upgrades can have in Northport where a strained and aging sewage treatment plant was upgraded. Shortly after, Centerport Beach was reopened to swimmers after years of being off limits. Water quality is visibly improved.

According to the county, the surcharge would an average of \$75 to residential users' water bills. We have some concerns that the impact on large commercial users – restaurants and industrial facilities specifically – and these should be researched an addressed. However, the cost for most of us is a livable increase that will have tremendous impact.

We also have concerns that the money will be protected, used only for the purpose for which it was raised. We have seen a cash-strapped county tap the sales tax surcharge dedicated to land preservation in order to balance its budget. Bellone assures us that safeguards will prevent such a situation here.

Overall, it's a small price to pay for the environmental and health benefits it will bring. Let's get this on the ballot.

Long Islander News

April 28, 2016



FINAL THOUGHT

“Clean water should be the birthright of every Long Islander and it’s time we tackle this crisis together and Reclaim our Water.”

-Steve Bellone, Suffolk County Executive
2014 State of the County

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