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Sound Restoration: Getting to the Source

Chantal Collier - Director, Long Island Sound Program

24th Annual Long Island Sound Citizens Summit
April 10, 2015

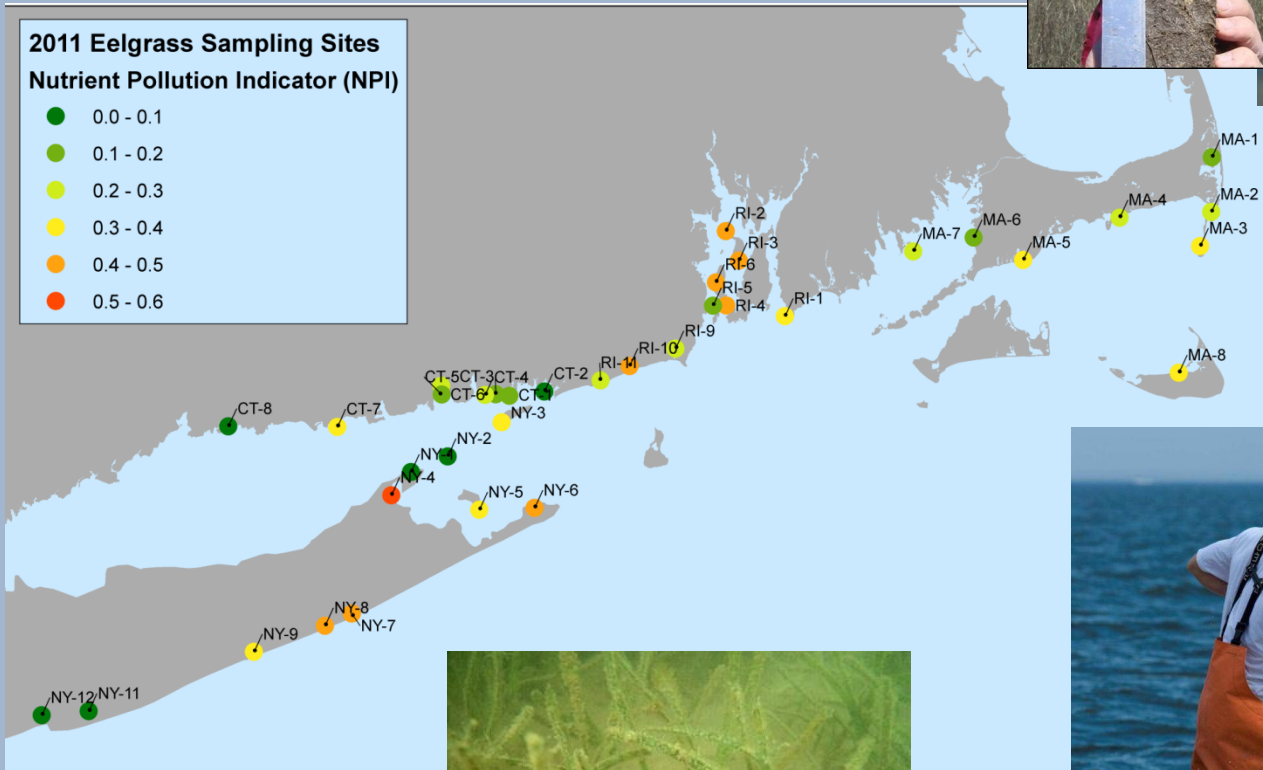




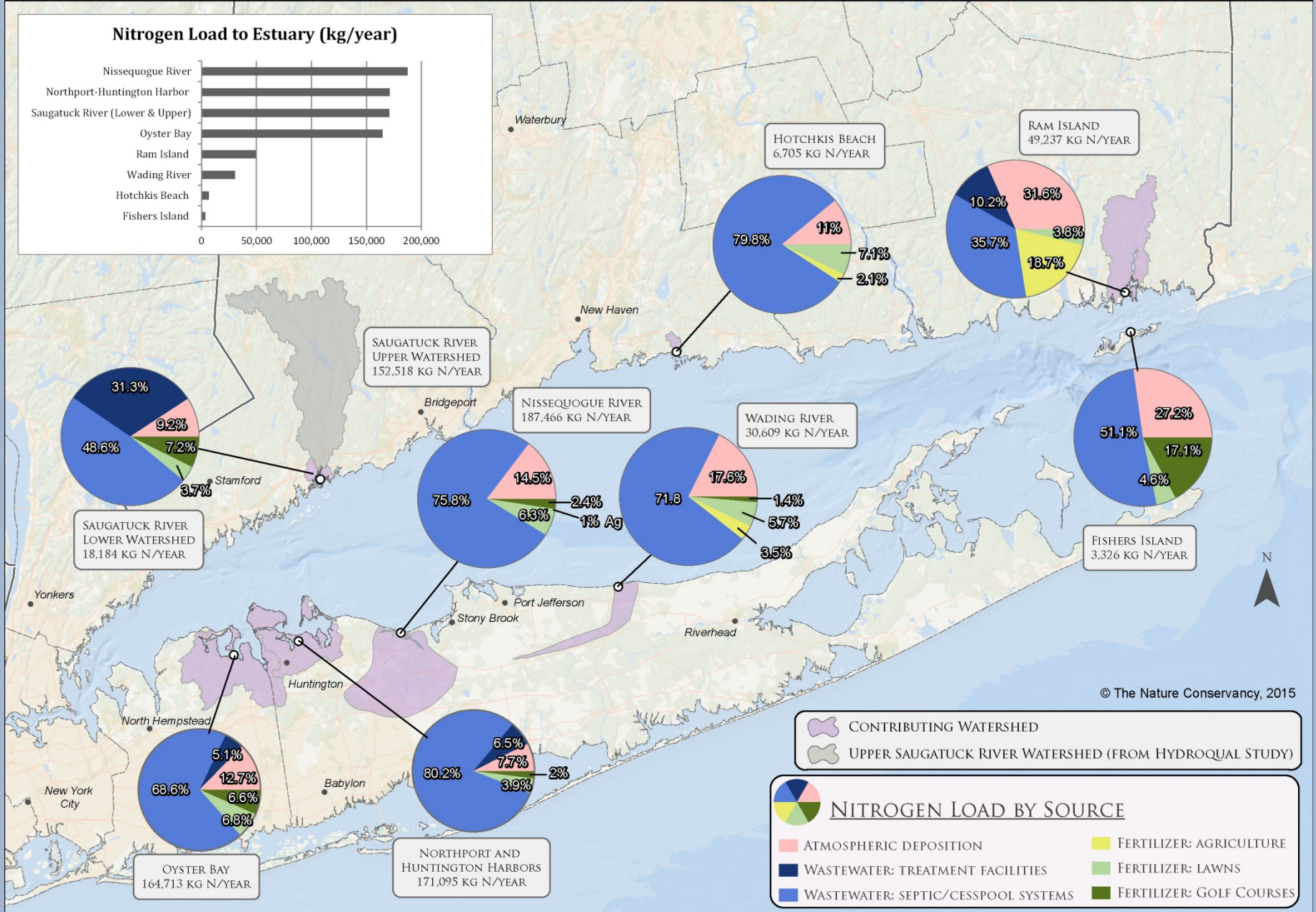
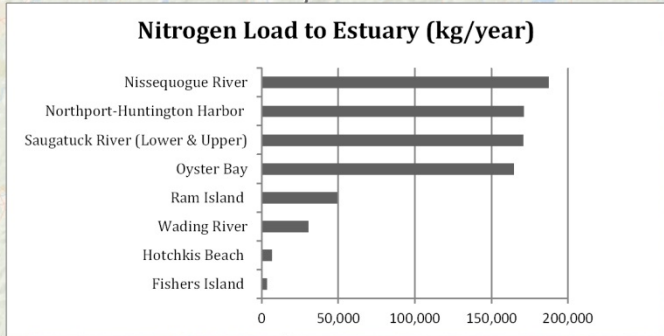
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2011 Eelgrass Sampling Sites Nutrient Pollution Indicator (NPI)

- 0.0 - 0.1
- 0.1 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6



NITROGEN LOADING SOURCES: LONG ISLAND SOUND



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2008 PLAN

Cape Cod Area Wide Water Quality Management Plan Update

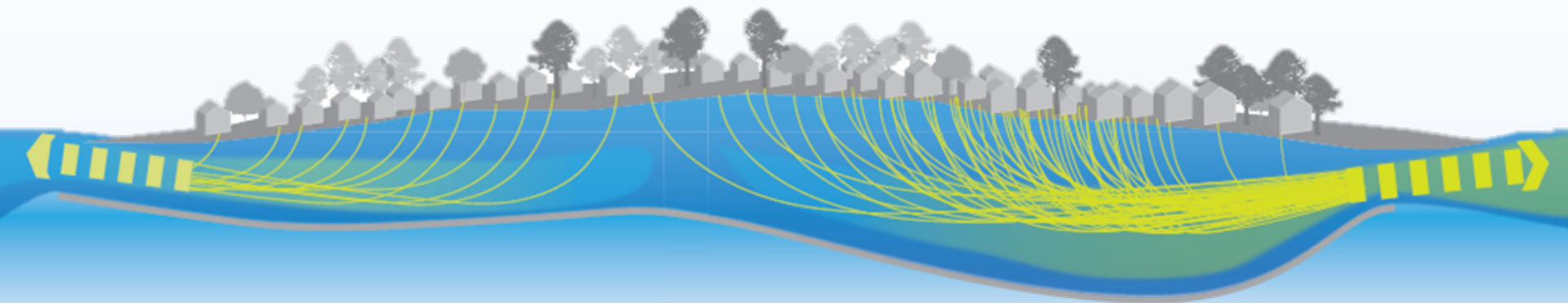
**Long Island Sound
Citizens Summit**

Friday, April 10, 2015

Paul Niedzwiecki

Cape Cod Commission





Solving a
Nonpoint Source
Problem

STAKEHOLDER PROCESS

strategies for establishing consensus in a regional planning process

Section 208 of the Federal Clean Water Act emphasizes public engagement as an important part of the regional planning process. The Cape Cod Commission committed to an extensive public engagement process to bring more voices to the table in order to develop consensus around a range of solutions to solve water quality problems.

OBJECTIVE

In order to be successful, the planning process needed to remain objective. The Commission brought in the Consensus Building Institute to provide facilitation in order to build collaboration and agreement among stakeholders.



ON SCHEDULE



To ensure the Section 208 Plan Update stayed on task and was delivered on time the Commission engaged the Cape Cod Water Protection Collaborative Governing Board and created a new Advisory Board. These Boards provided advice on the overall approach, reviewing draft work product and offering insight on decision-making.

The Commission built consensus by working across town lines and identifying solutions at the watershed level. A range of stakeholders was convened at the watershed and the subregional level to consider watershed-based solutions and strategies.

AGREEMENT



AFFORDABLE

A basic principle of the Section 208 Plan Update is that cost be considered as part of every watershed solution and the financial impact on individual homeowners be a primary concern.



To ensure regulatory flexibility in planning and permitting was addressed, the Regulatory, Legal and Institutional Work Group advised on regulatory reform and increased coordination between local, state and federal regulatory requirements. The Monitoring Committee provided advice on monitoring protocols and a process for monitoring data to inform adaptive management.



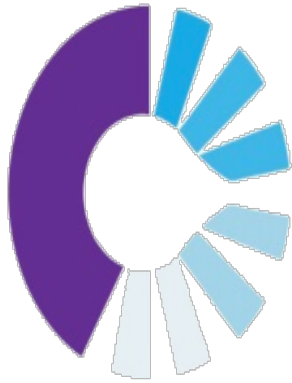
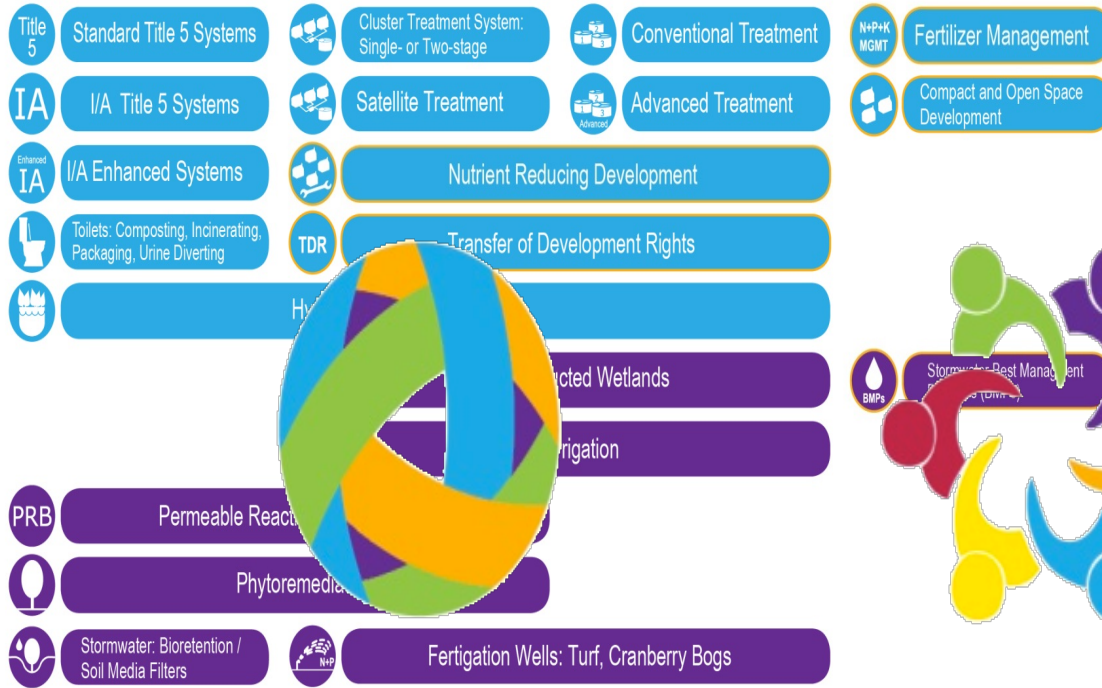
FLEXIBLE

ENGAGING

The Plan involved the broadest possible Cape community through a variety of public engagement initiatives. Cape-wide meetings and web based tools provided educational information and a non-traditional way of providing input to the process.



| Site Scale | Neighborhood | Watershed | Cape-Wide



Reduction

Treatment before disposal to ground

Remediation

Treatment in groundwater

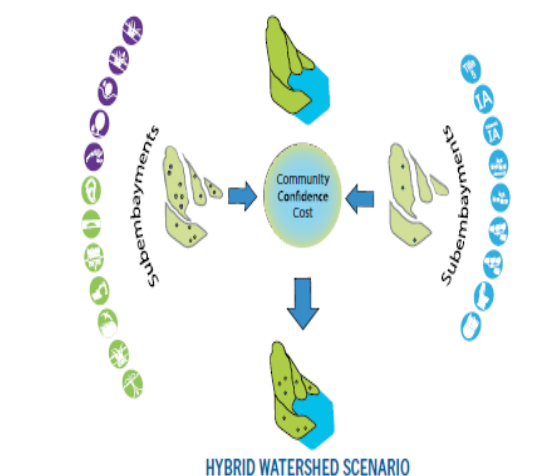
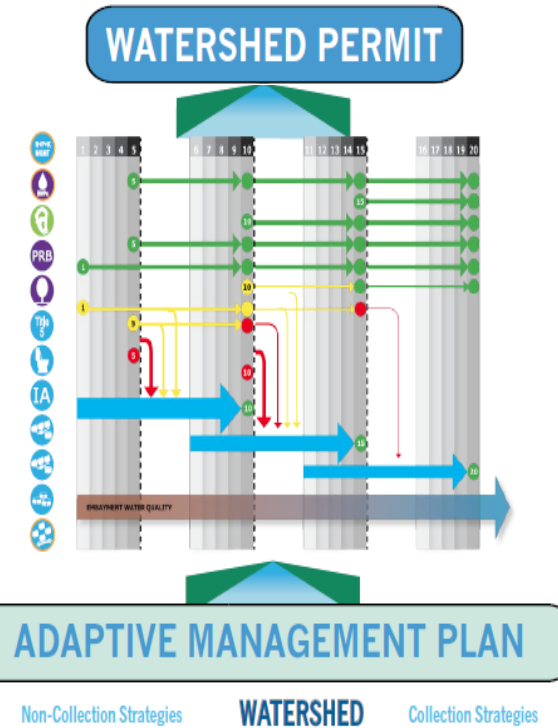
Restoration

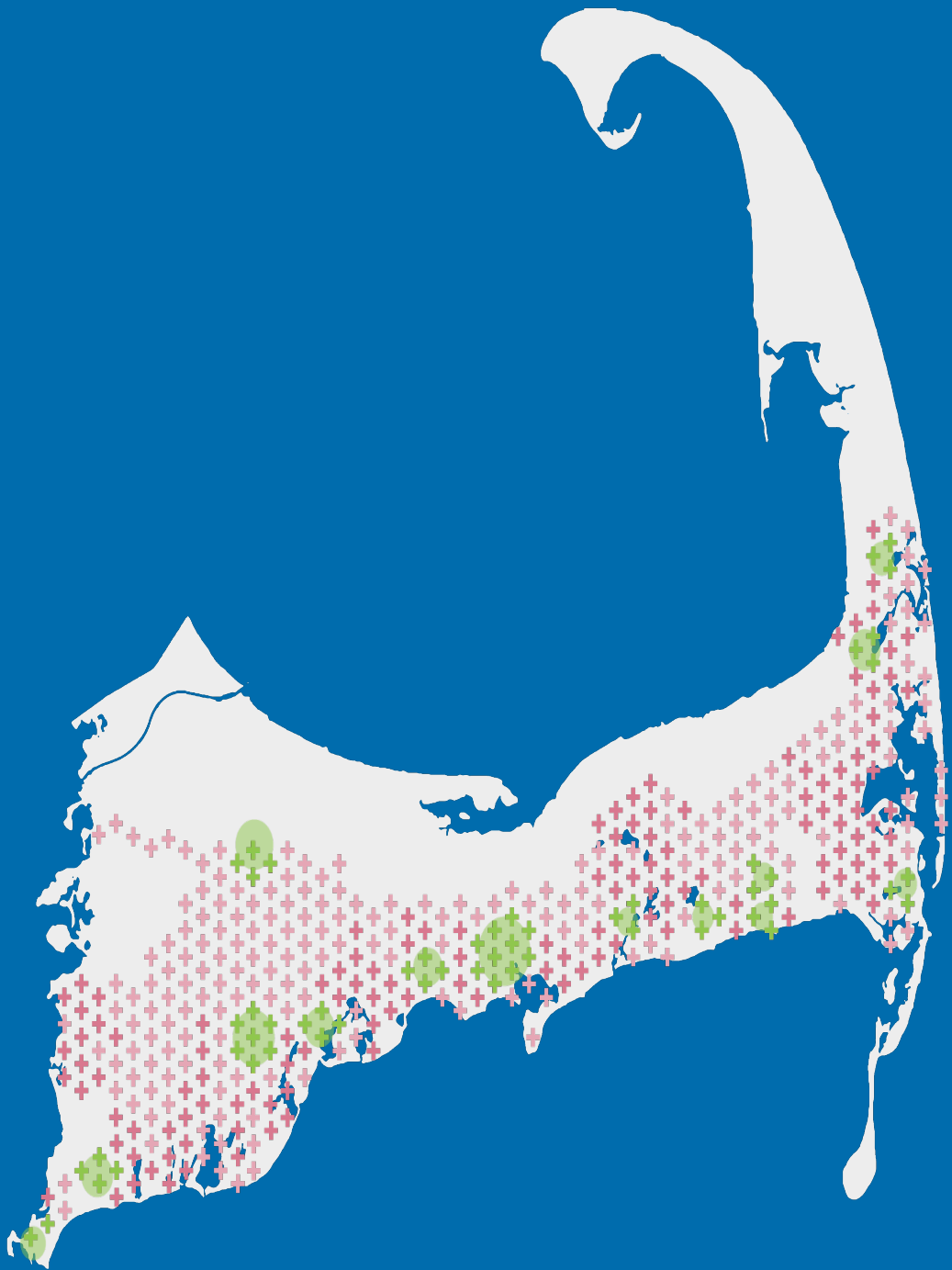
Treatment in water body

Targeted Watershed Planning



COMMUNITY EVALUATION







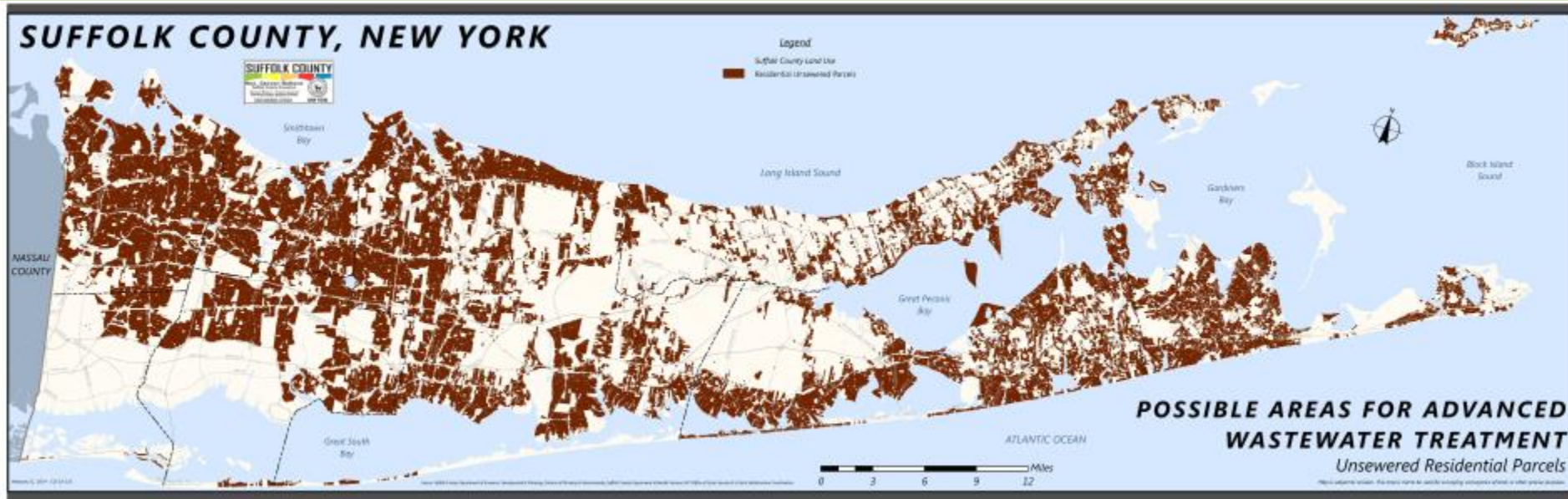
CAPE COD
COMMISSION

www.CapeCodCommission.org

Why the Fuss?

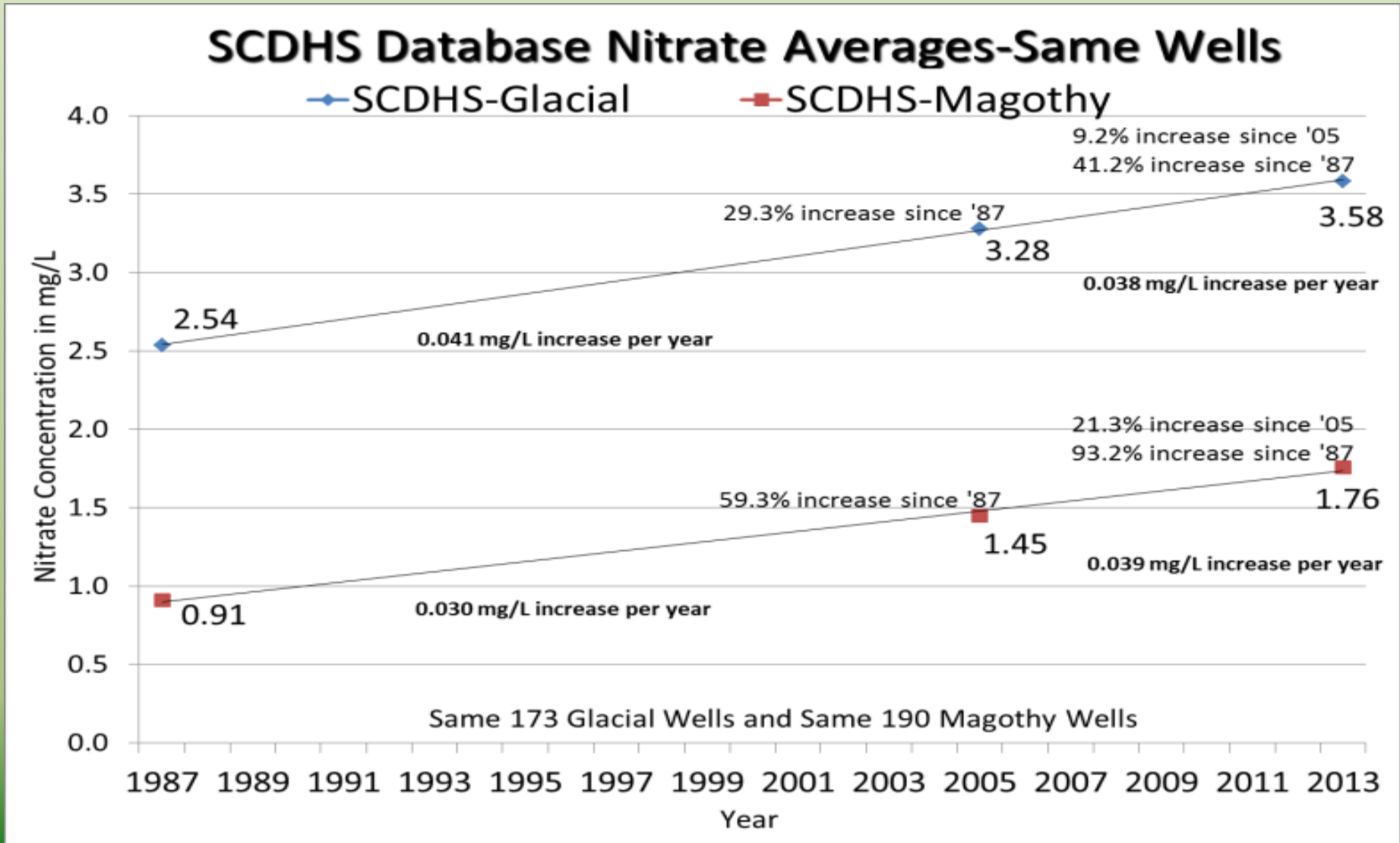
- ~1.5 million people, >900 sq miles/600,000 acres
- Mostly unsewered (>70% of population)
- **Vulnerable sole source aquifer**
 - Diffuse public water supply well network (>1,000 wells)
 - Often relatively shallow (upper glacial aquifer)
 - >40,000 private wells
 - Nitrogen, VOCs, pesticides, pharm./pcp's, pathogens
- **Wetlands, surface waters, 3 major estuary systems**
 - Groundwater and surface waters are connected
 - All Suffolk estuary systems impaired by NITROGEN
 - Peconics, South Shore Estuary Reserve, Long Island Sound
 - Eutrophication and low dissolved oxygen
 - Mounting evidence suggesting linkage to harmful algal blooms
 - Key factor for wetlands, eelgrass and coastal resiliency

360,000 unsewered homes in Suffolk County

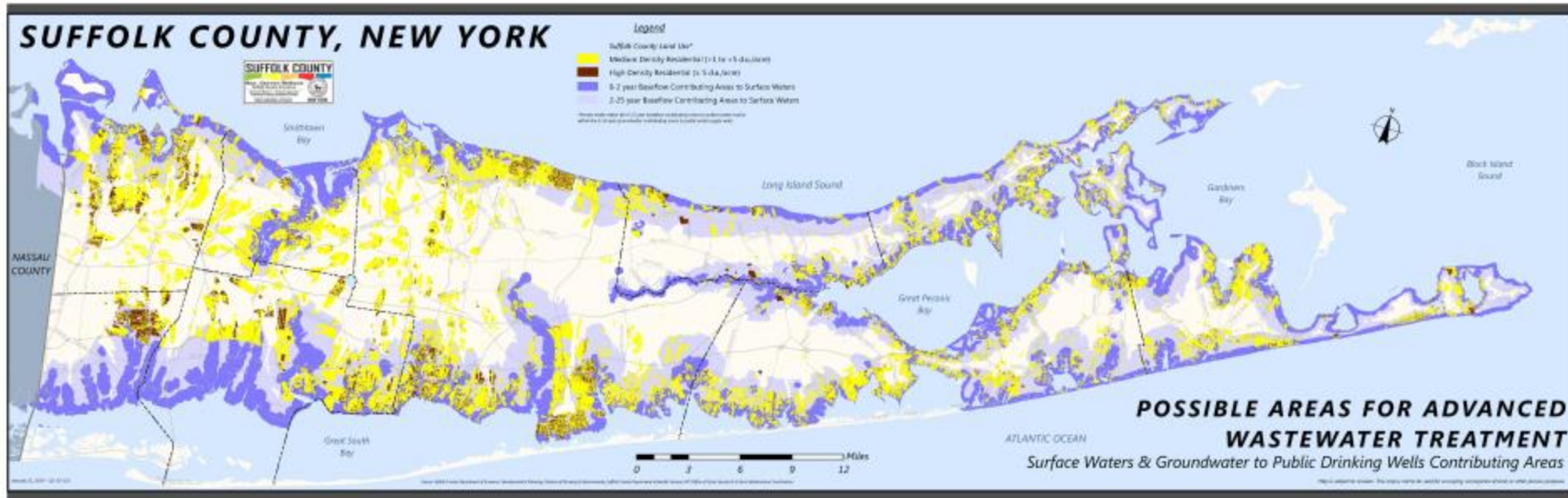


- 74% of all homes in Suffolk County are unsewered
- The National Environmental Services Center's historic reference information indicates that Suffolk County leads the State (and Tri-State region) in the number of individual septic systems, followed by Dutchess County [51,480] and Ulster County [41,927]

SCDHS Evaluation of Nitrates in Public Water Supply Wells Report - April 2014



209,000 Parcels In Priority Areas for Advanced Wastewater Treatment



BUSSE Green Technologies, Inc.	Busse MF	Membrane Bio Reactor	NSF	2 Systems
Hydro-Action Industries	AN series	Extended Aeration Activated Sludge	NSF	5 Systems
Norweco, Inc.	Singulair TNT	Extended Aeration Activated Sludge	NSF	5 systems
	Hydro-Kinetic	Extended Aeration Activated Sludge with effluent filter	NSF	5 systems
Orenco Systems, Inc.	AdvanTex-AX-RT	attached growth packed bed reactor	Currently In NSF Testing	1 System
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Recommendations: Nitrates

- 1.1 Create and/or expand sewer districts for priority areas
- 1.2 Identify I/A OWTS options for homeowners
- 1.3 Develop funding/financing for voluntary homeowner upgrades & possible mandatory upgrades to achieve location-specific criteria
- 1.4 Promote local industry interest in I/A OWTS
- 1.5 Determine wastewater treatment options by sub-watershed
- 1.6 Evaluate revision of the Sanitary Code to prohibit the "grandfathering" of sanitary flows without an I/A OWTS or connection to sewers
- 1.7 Evaluate revision of the Sanitary Code to prohibit "replacement in-kind" of failed systems

SC Water Quality Initiative: NYS \$383 Million Sewering Award

