Appendix K-3
Special Public Hearing

Richard Amper

December 5, 2016

NELSON POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

Background

- **Completeness of DEIS**
  - Adequate for Review – Not In Any Way Approved

    (NYSDEC SEQRA Handbook p.133)
- **Public Hearing Process**
  - **How to Comment Effectively:**
  - ***"Give careful attention to the comparative assessment of alternatives presented in the DEIS. Offer additional reasonable alternatives if they can be identified"***

    (NYSDEC SEQRA Handbook p. 137)

Background

- **SEQRA Regulations for a DEIS**
  - **Scoping Outline:** Refines Focus and Content of DEIS
    - The Hills Scoping Outline Required Consideration of:
      - No Action
      - Current Zoning
      - Recommendations of East Quogue GEIS
      - Reduced Density
      - Alternative Technology – wastewater/turf
      - Reduced Impact Alternative
        - » No Golf Course
        - » No Septic/Clearing – well protection areas
        - » Habitat and Rare Species Protection

Background

SEQRA Law – Key Legislative Finding

"Every citizen has a responsibility to contribute to the preservation and enhancement of the Environment"

- (Article 8 NYSECL – 8-0103)

The Reduced Impact Alternative

Bob DeLuca, Group for the East End

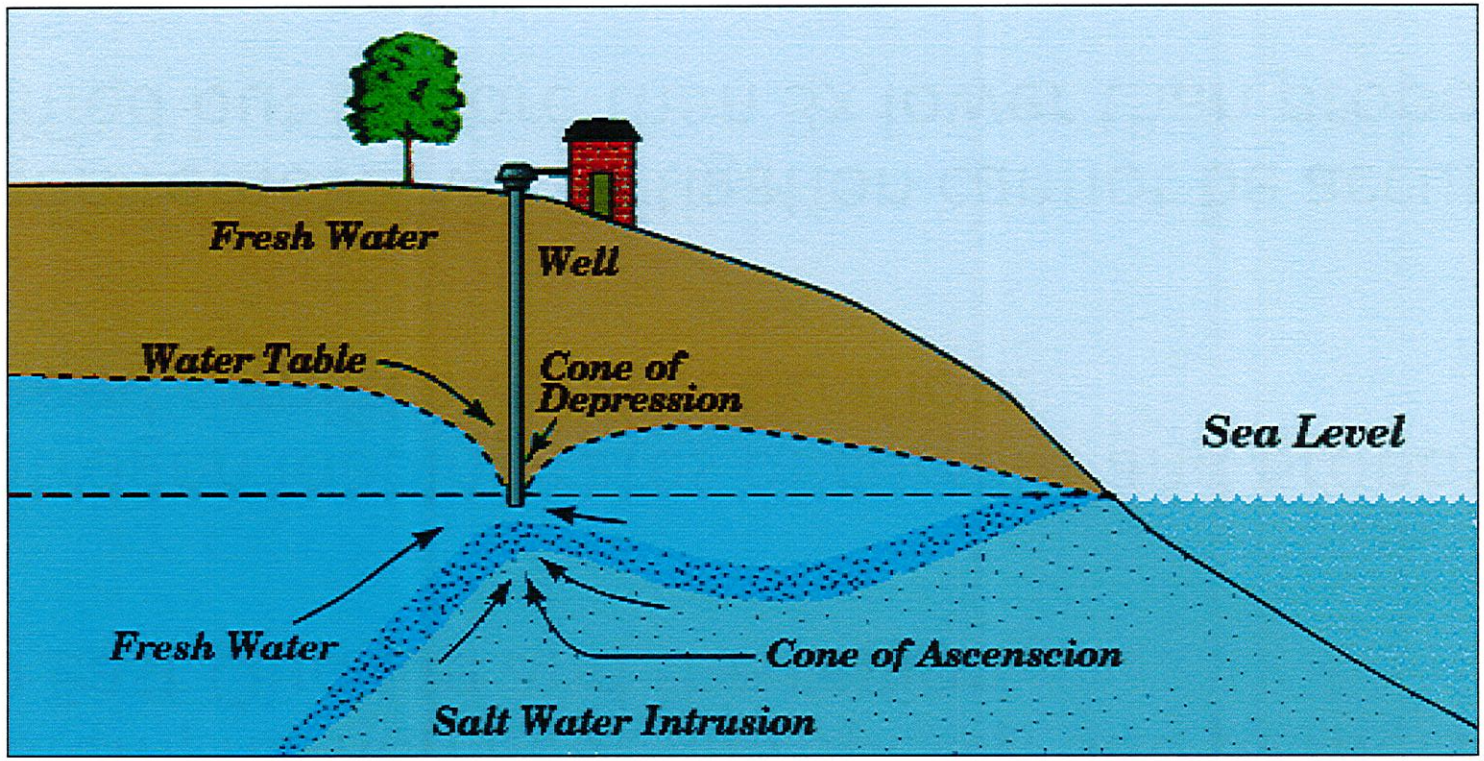
Lisa Liquori, Fine Arts & Sciences LLC

A Better Choice

East Quogue Civic Association
Southampton Water Protection Alliance

Conclusions

- Excessive nitrogen loading provides significant ecosystem, human heath, property, and property value risk to East Quogue and the region.
- The nitrogen loading rates of current and proposed uses need significant re-evaluation.
- Nitrogen removal via fertigation cannot be accurately quantified but is more than 3x lower than proposed.
- The best available science suggests that The Hills as proposed does not deliver less nitrogen than 120 year-round homes with full occupancy.

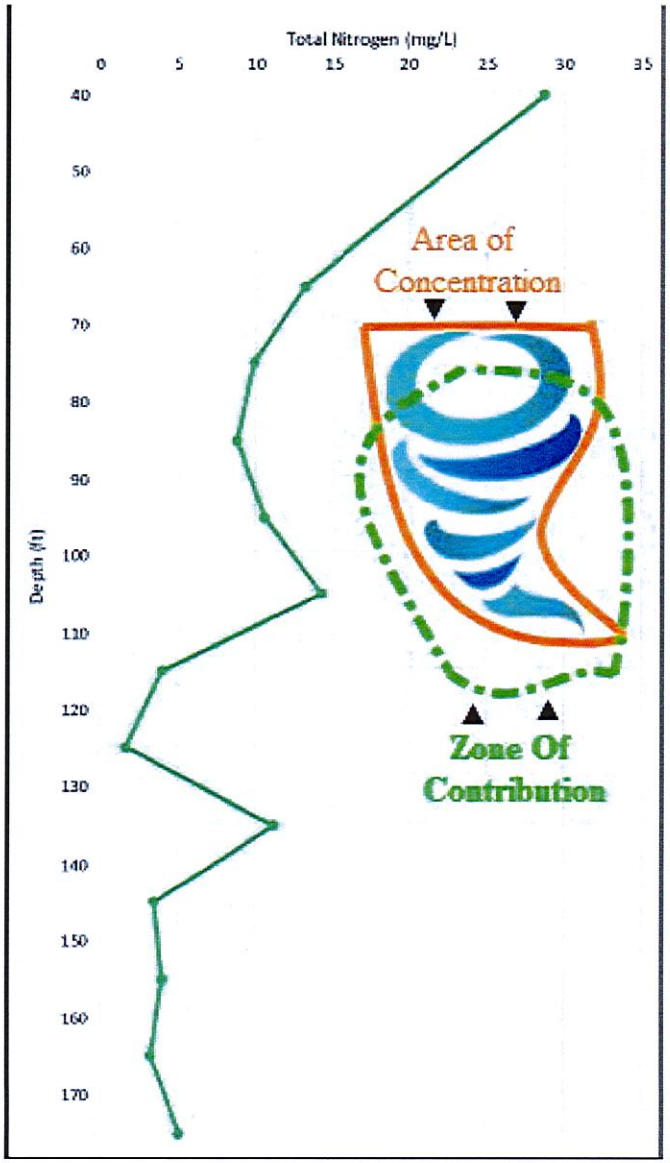

Fresh Water
Well
Water Table
Cone of
Depression
Sea Level
Fresh Water
Cone of Ascenscion
Salt Water Intrusion

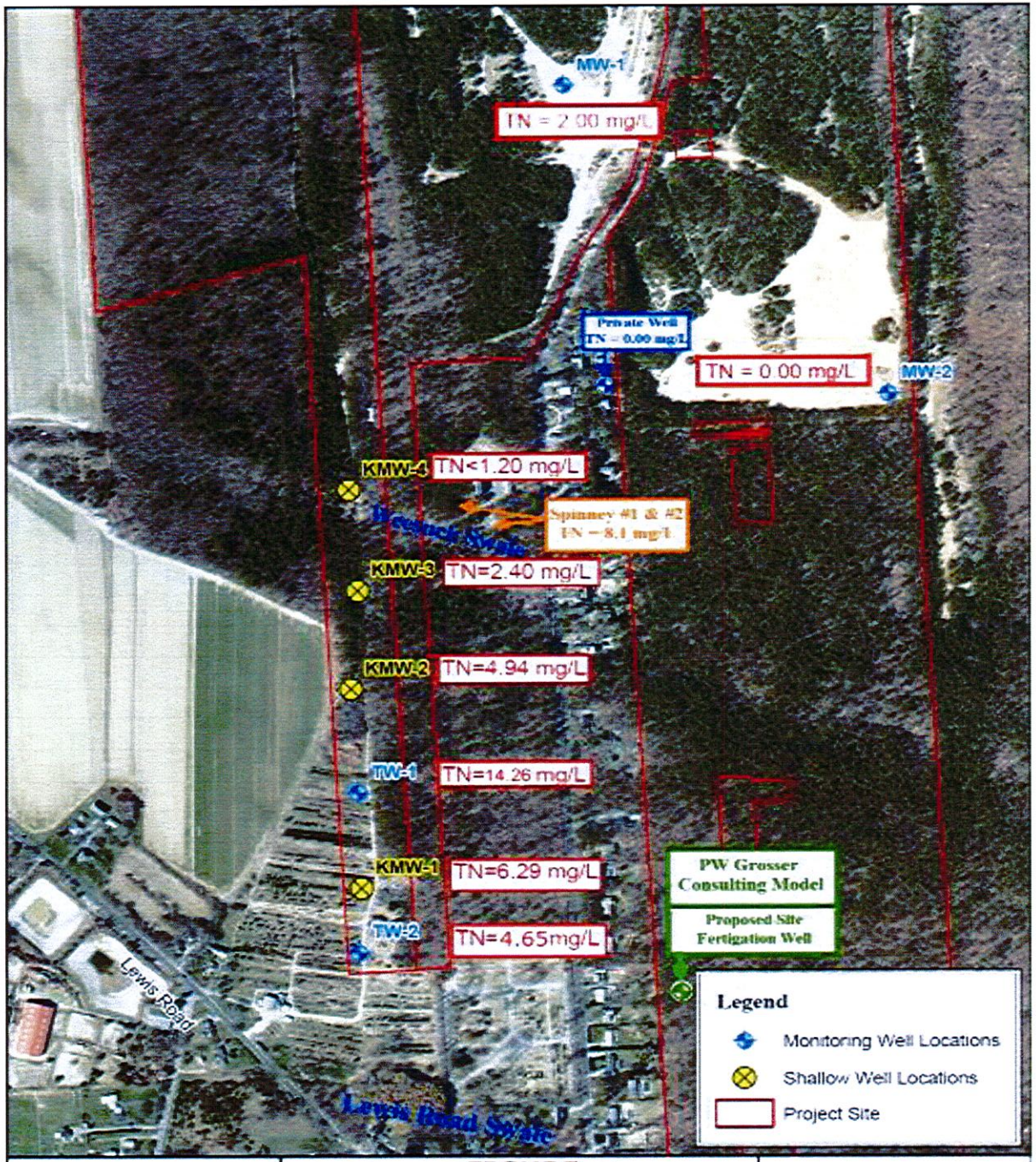
Vertical profile of nitrogen fertigation well

Hills Vertical Profile Well Results	
Depth Interval (ft)	Total Nitrogen (mg/L)
40	28.7
65	13.20
75	9.92
85	8.85
95	10.60
105	14.30
115	4.00
125	1.71
135	11.20
145	3.52
155	4.06
165	3.29
175	5.13
Average* =	14.26

*Based on depths of 40-105 ft.

TW-1 Results



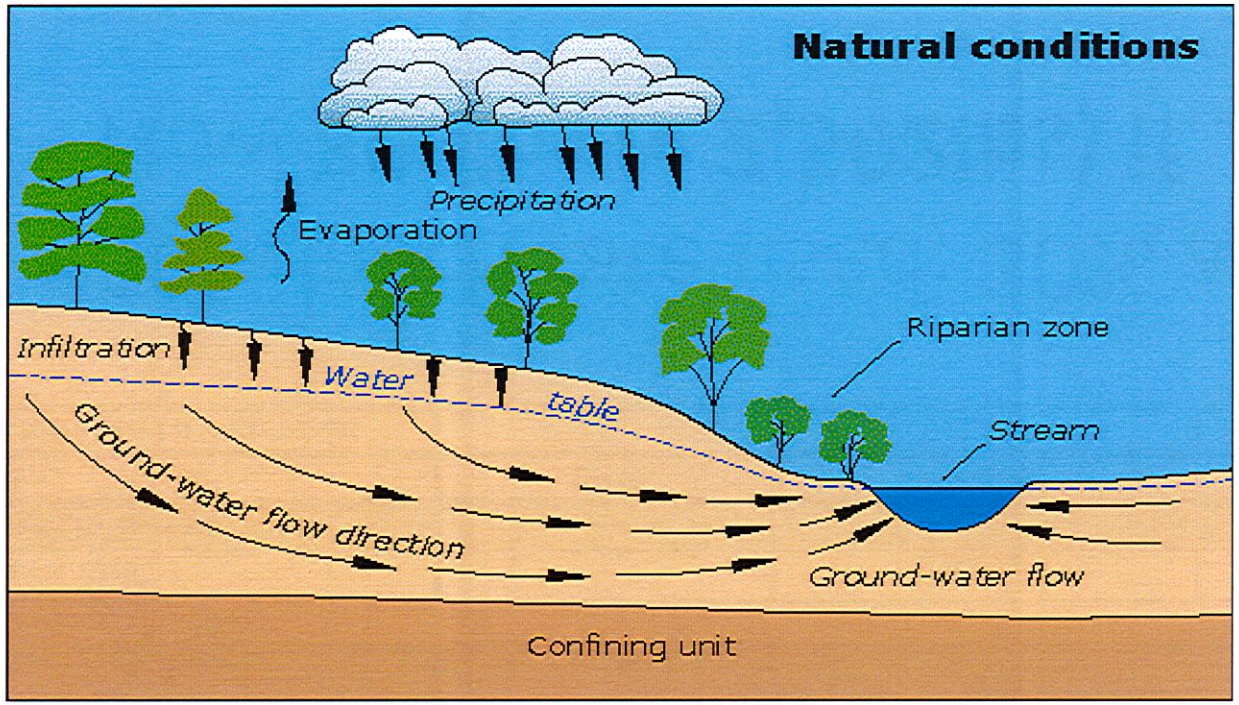


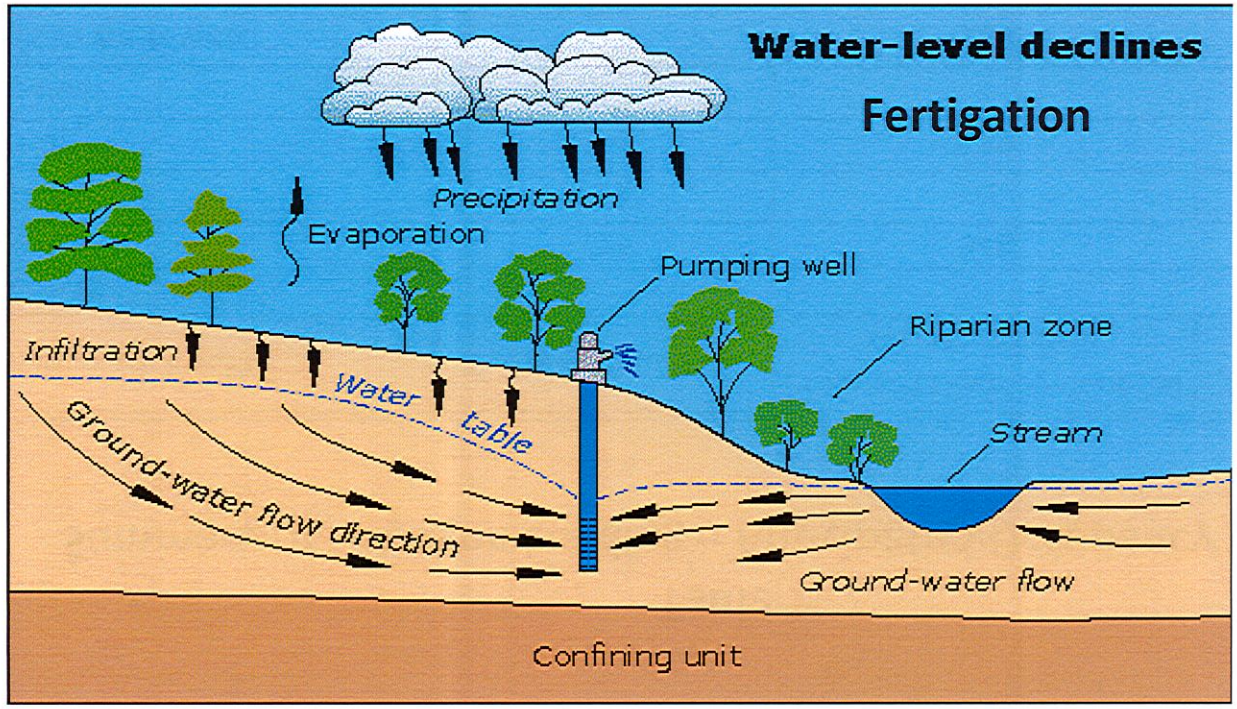
NP&W

FIGURE
SHALLOW WELL
LOCATION MAP

Source: NYSGIS Orthoimagery Program, 2013
Scale: 1 inch = 500 feet

The Hills at Southampton





- 45 million gallons per year
- >10% of groundwater annual recharge

US EPA

Table 1
Summary of Nitrogen Loading – Anticipated Occupancy Scenario

Summary Results	Existing Conditions	Proposed Development (60 Day Occupancy)	As of Right Development (75% Occupancy)
Nitrogen Sources (lbs N/yr)			
Natural Land	525	348	372
Farms[1]	1,187	15	--
Golf Course[2]	--	688	--
Residential[3]			
Sanitary Waste Water	--	126	1,122
Turf, Nat. Land, & Imp. Runoff	--	143	1,734
Total Nitrogen From Sources	**1,712**	**1,319**	**3,228**
Nitrogen Removal (lbs N/yr)			
Irrigation Well[4]	--	2,502	--
Total Nitrogen Removed	**0**	**2,502**	**0**
Net Nitrogen	**1,712**	**-1,183**	**3,228**
Additional Nitrogen To Watershed	**0**	**-2,895**	**1,516**

- 10% leach rate used; 30% actual
- Now **800lbs (v 2,502lbs)** if…

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- **Homes calculated as 70% turf, 30% impervious plus 118 homes?**
- NLM estimate (100% occupancy) = **~1,000 – 1,600 lbs (vs 3,222 lbs)**

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- **30% N from wastewater? (vs 70%)**

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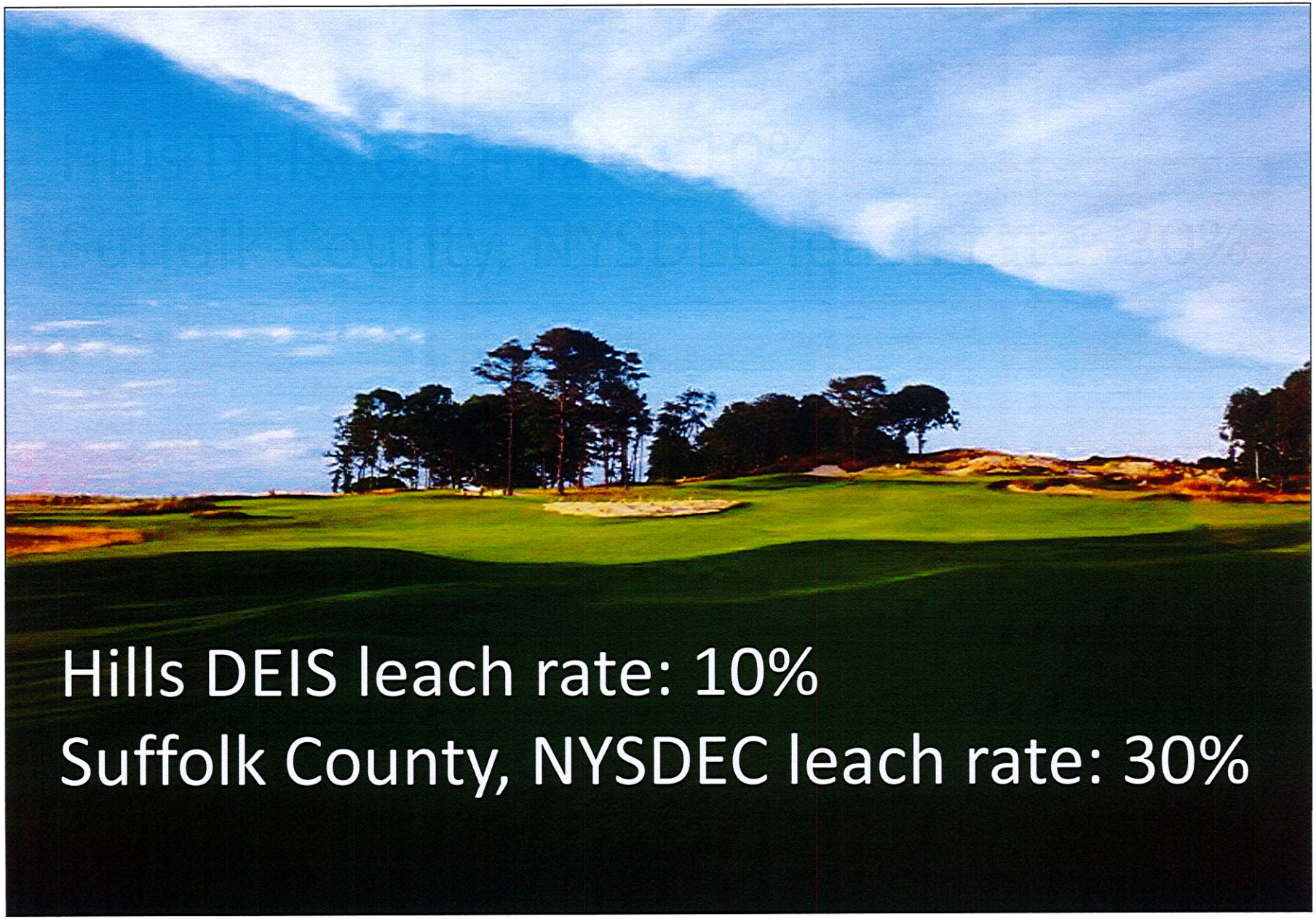
- 10% leach rate used; 30% actual
- NLM result = ~**2,000 lbs (vs 688lbs)**

Sebonack Golf Course



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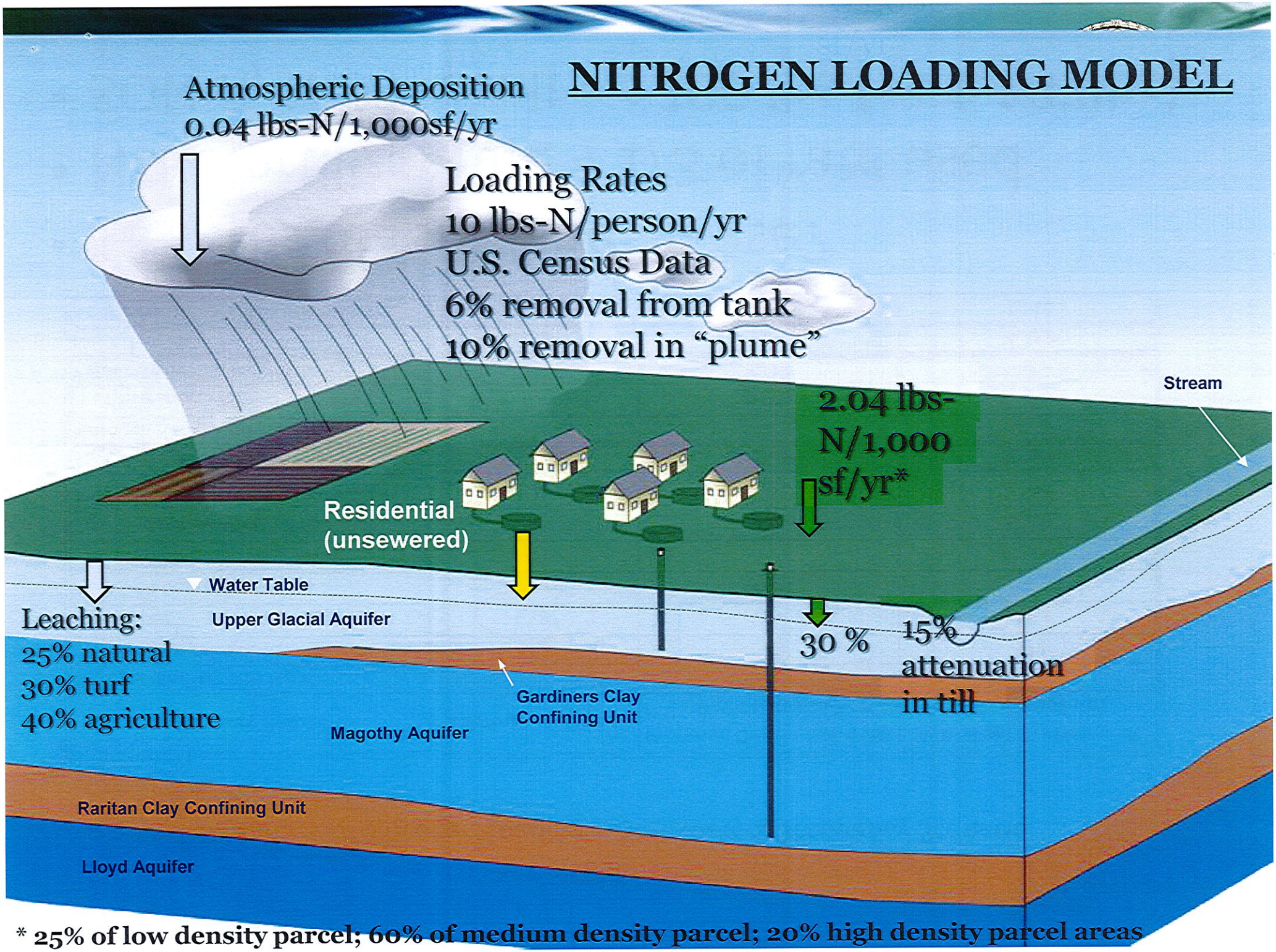
- **18 acres** of farmland; in use?
- NLM fertilizer rate = 1/3 of rate used
- SONIR, NLM result = **~300 lbs (vs 1,187lbs)**

NITROGEN LOADING MODEL



* 25% of low density parcel; 60% of medium density parcel; 20% high density parcel areas

Long Island Nitrogen Action Plan

DEPARTMENT OF ENVIRONMENTAL CONSERVATION • NEW YORK STATE •

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUFFOLK COUNTY SEAL NEW YORK FREEDOM AND INDEPENDENCE

Stony Brook University

USGS science for a changing world

CORNELL UNIVERSITY FOUNDED A.D. 1865

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- Net removal of nitrogen

"The Hills"
Proposed Development - Greens

Welcome to BURBS

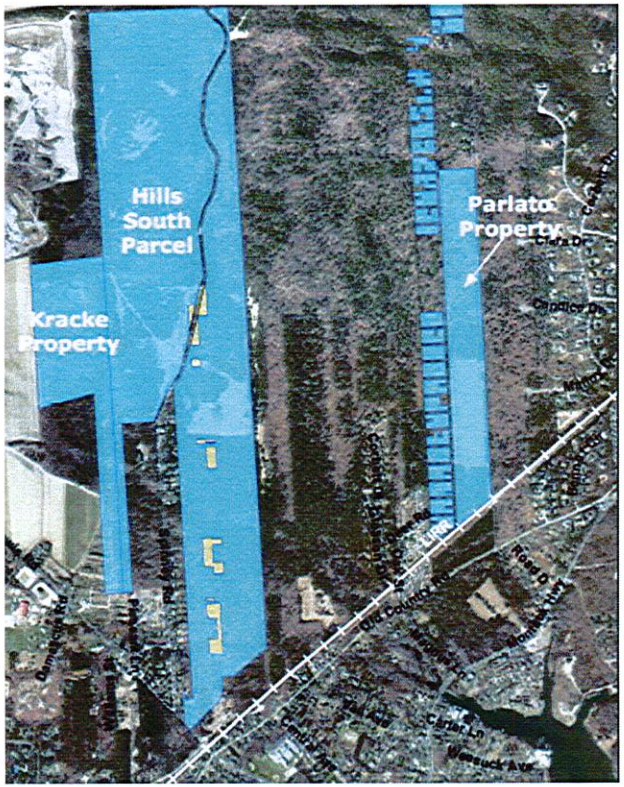
A Lotus 1-2-3 spreadsheet for calculating the impact of residentia
development on the nitrate concentration in groundwater.
<<<< Center for Environmental Research, Cornell University >>>>
Ithaca, N.Y. 1985

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

THE HILLS AT SOUTHAMPTON
REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

Advance Copy Excerpt from Revised DEIS
Section 2.2 Water Resources

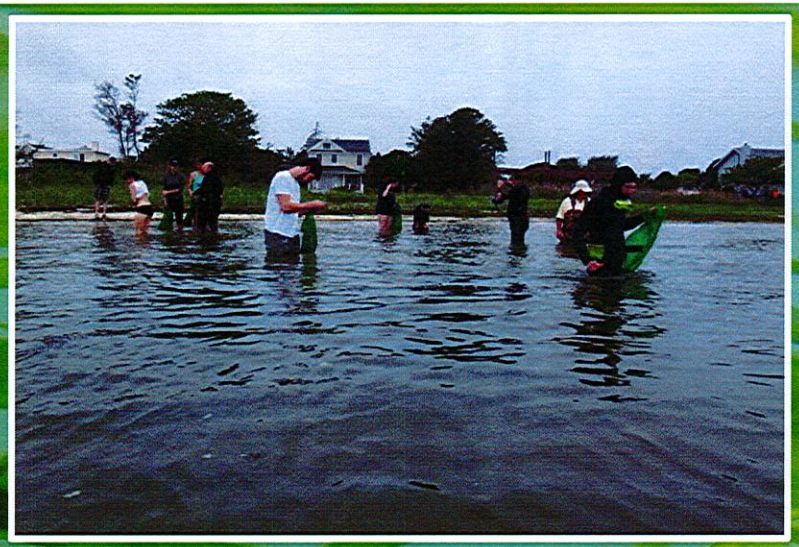


Juvenile *Mercenaria mercenaria* haphazardly discovered by bottom grabs in western Shinnecock Bay.

Total number of shellfish planted in Shinnecock Bay by Stony Brook University through 2016

Activity	Number of individuals
Oysters on Reefs	843,478
Oysters in rafts	55,033
Adult clams in spawner sanctuaries	2,256,321
Seed clams planted	4,600,000
Seed oysters planted	1,000,000
Total shellfish planted	8,754,832

1,000 acres of seagrass beds regrown



Creating hard clam spawner sanctuaries in western Shinnecock Bay

SHINNECOCK BAY
RESTORATION PROGRAM

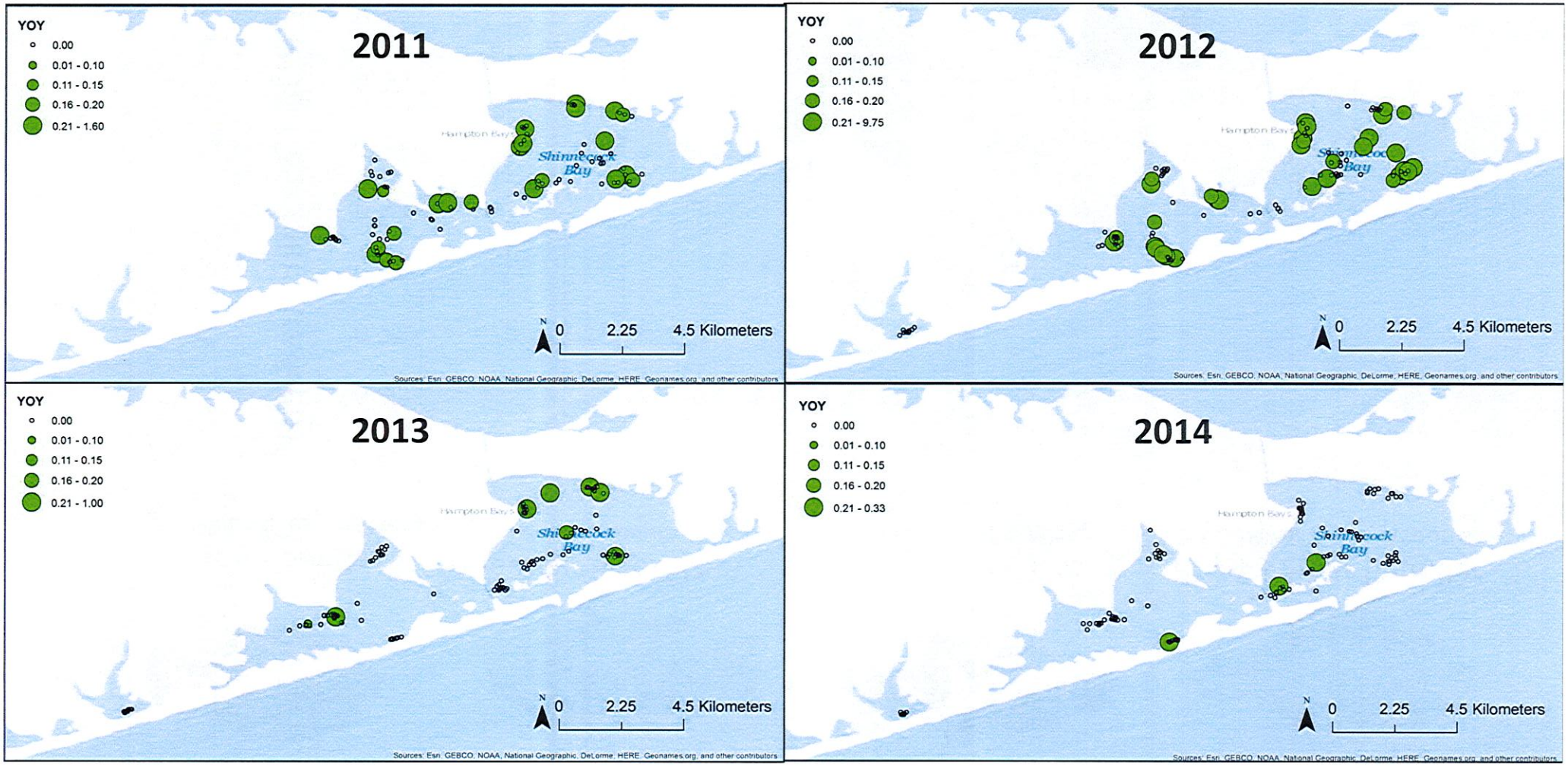
> $5M since 2012

Excessive nitrogen loading

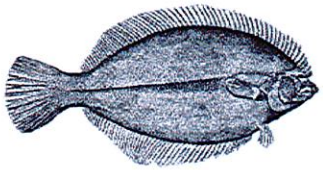
- Drinking water risk – nitrate contamination
- Coastal flooding risk – wetlands loss
- Human health risk – saxitoxin
- Degradation risk for Shinnecock Bay – loss of eelgrass, shellfish, finfish
- Home value risk – Home values 2% lower with decreased water clarity

Winter flounder

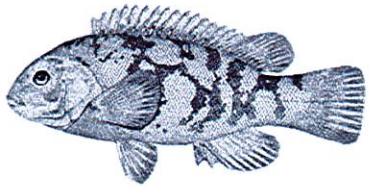
-Young of year-



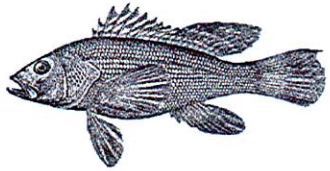
Rec. Important Fish Species



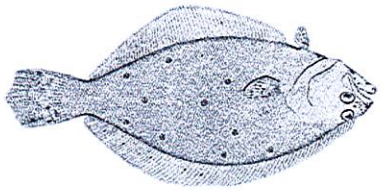
Winter flounder
Pseudopleuronectes americanus



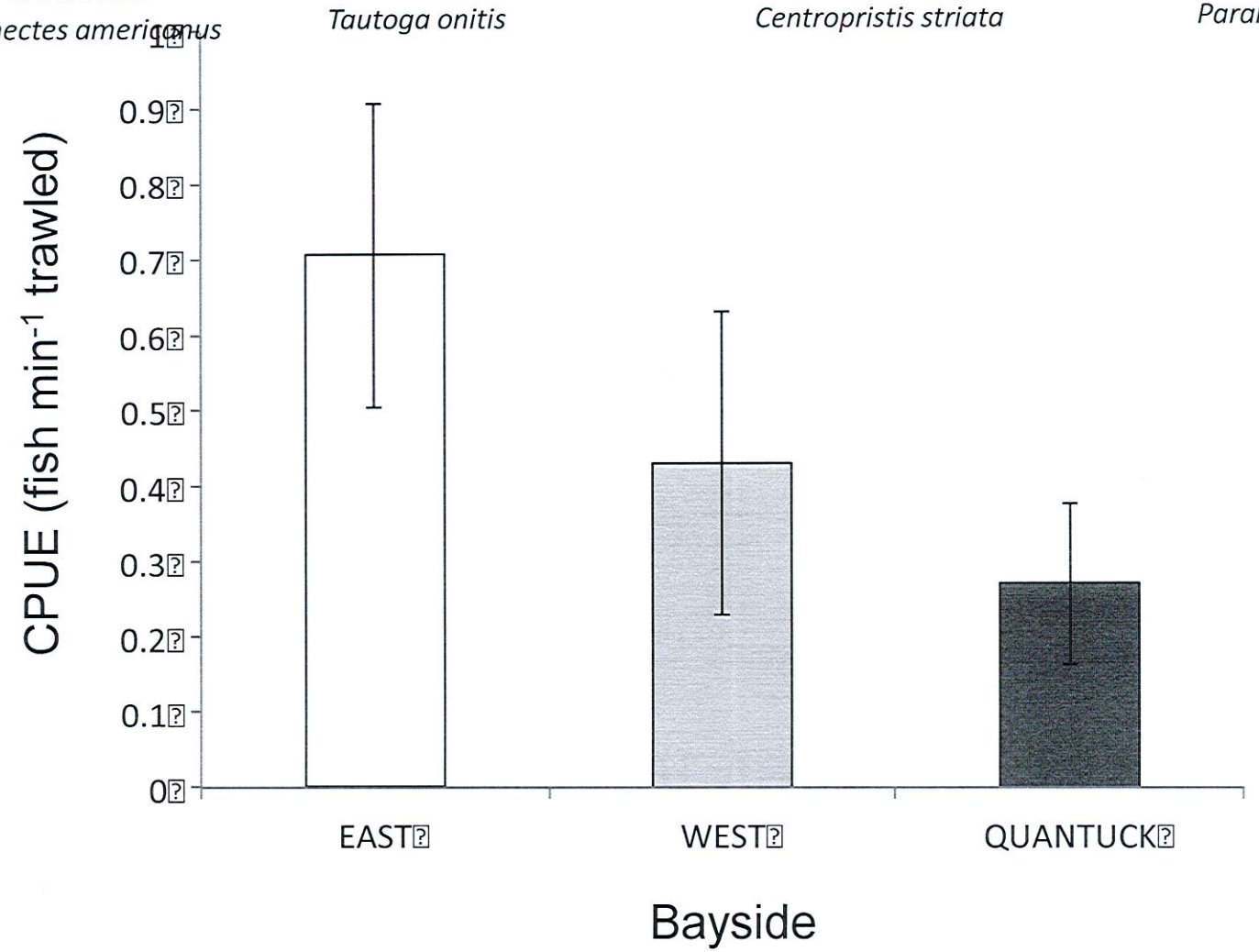
Tautog (Blackfish)
Tautoga onitis

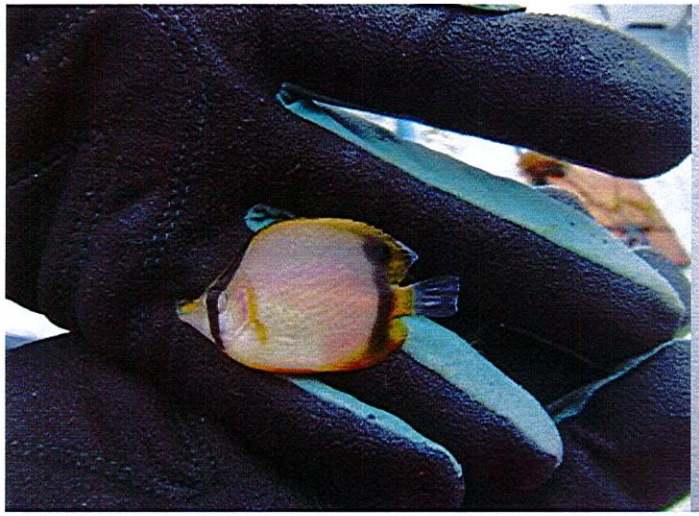


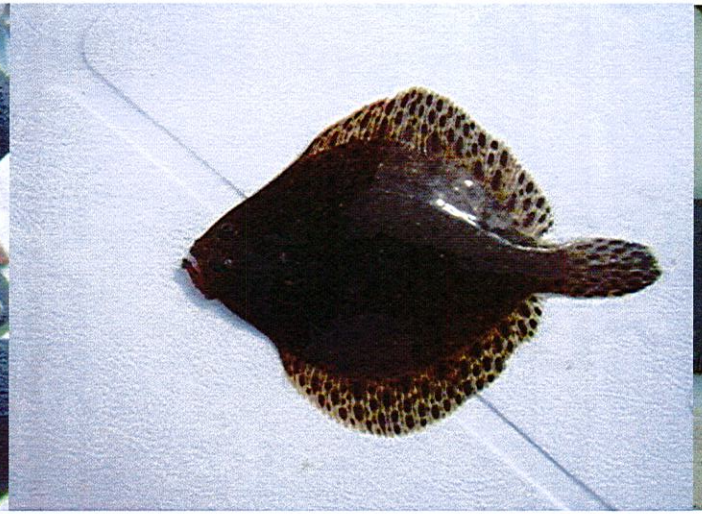
Black Sea Bass
Centropristis striata

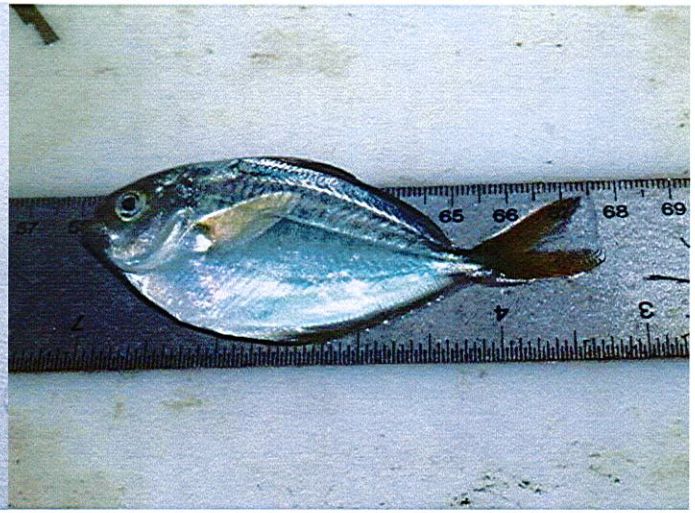


Summer flounder
Paralichthys dentatus



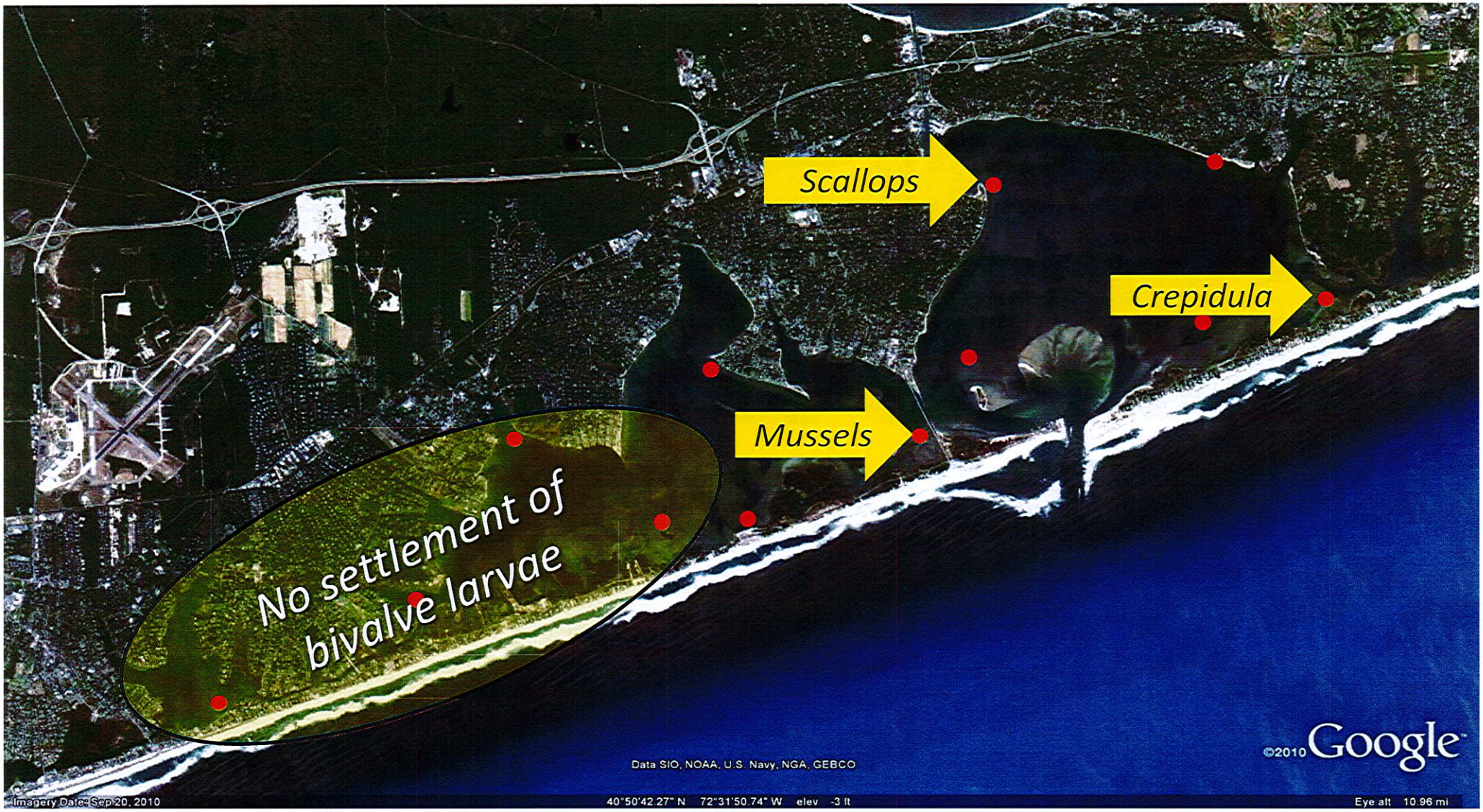






Shinnecock Bay Fisheries Monitoring

Settlement of bivalve larvae across Shinnecock and Quantuck Bay in 2011 highlighting regions with maximal settlement of scallop, mussel, and *Crepidula* larvae and the region of no bivalve larval settlement.



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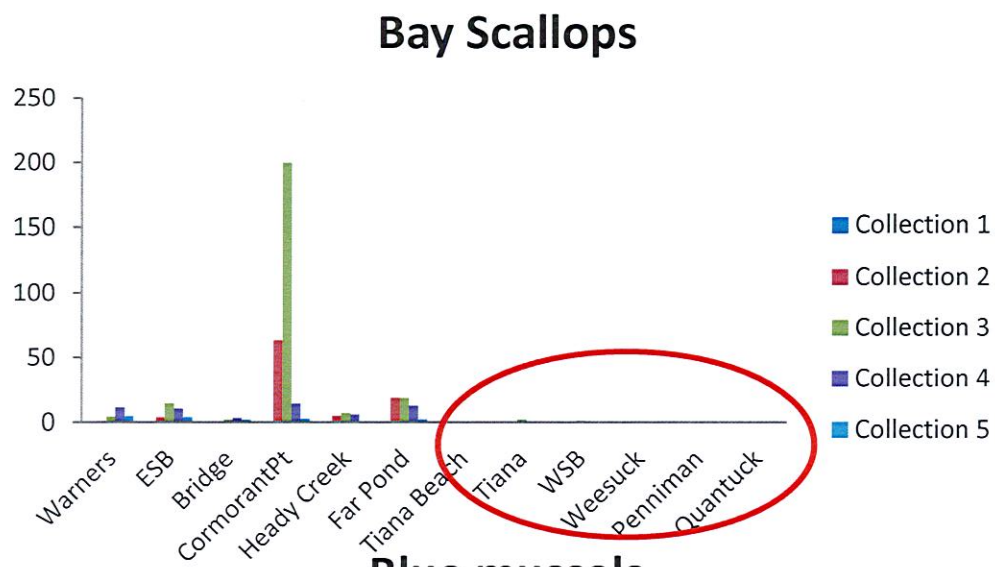
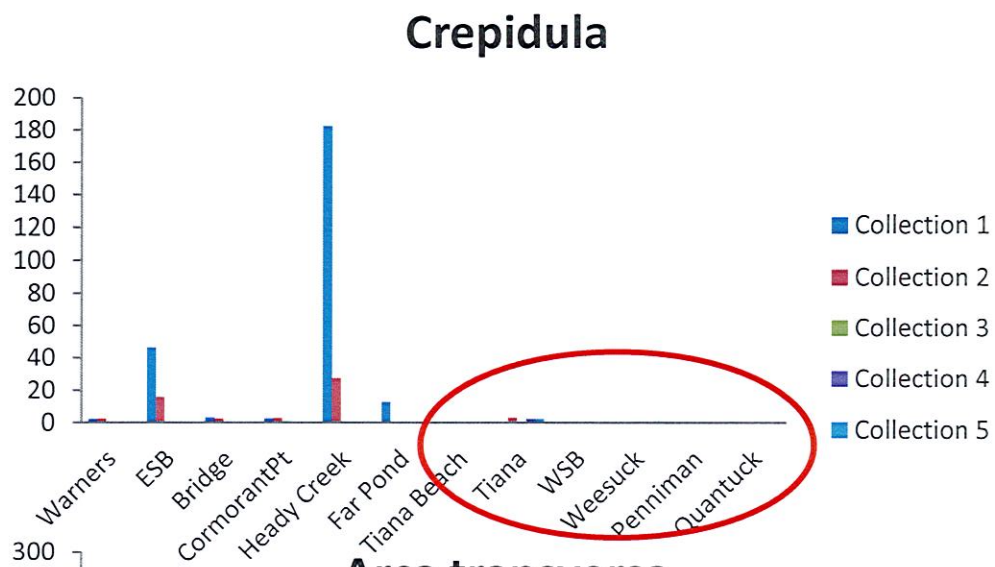
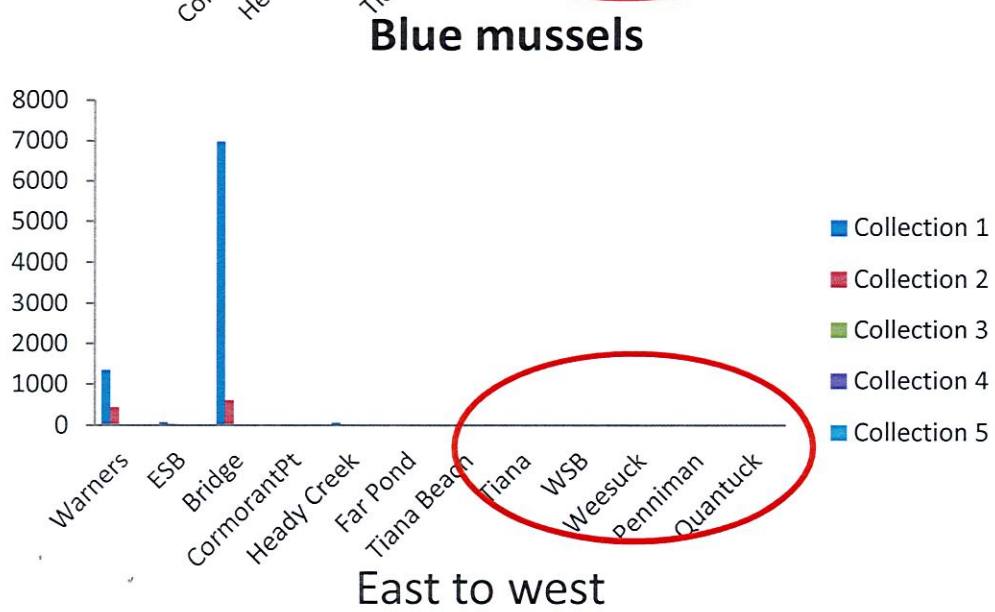
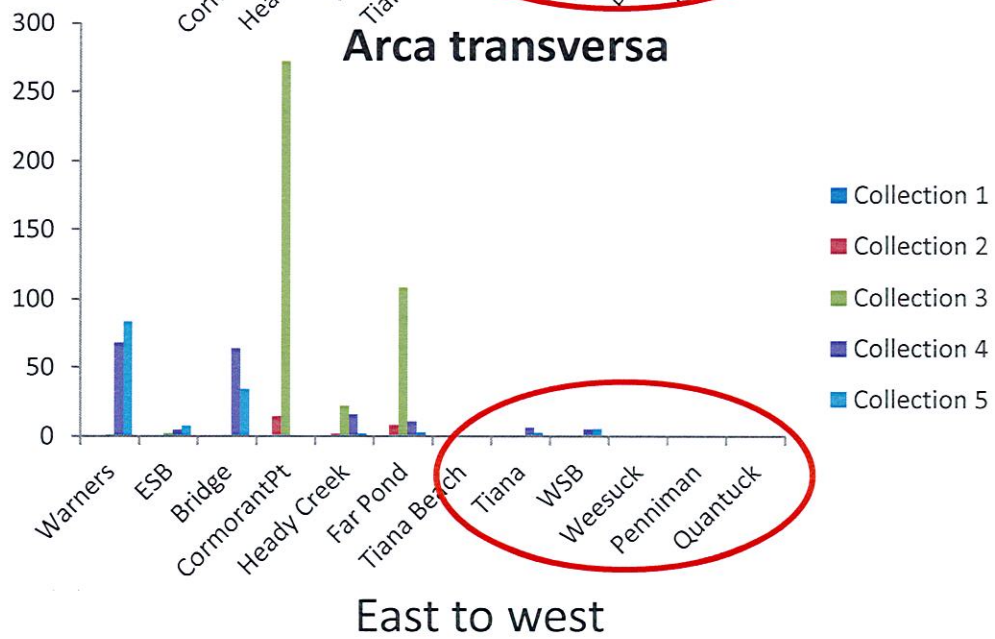




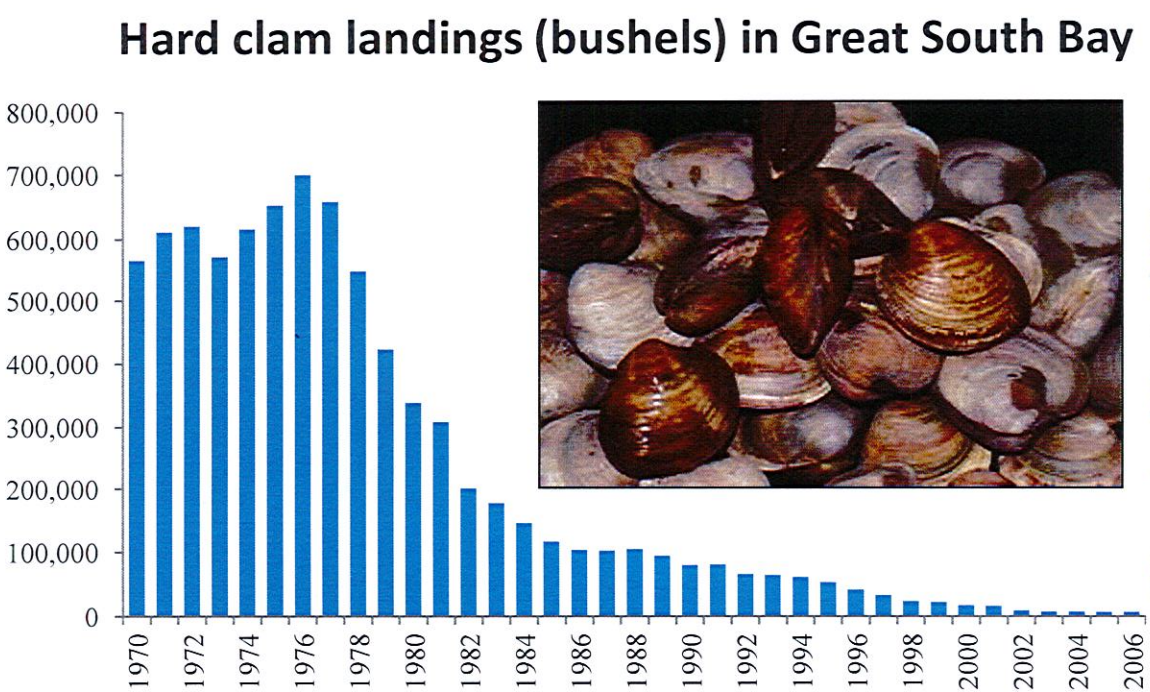


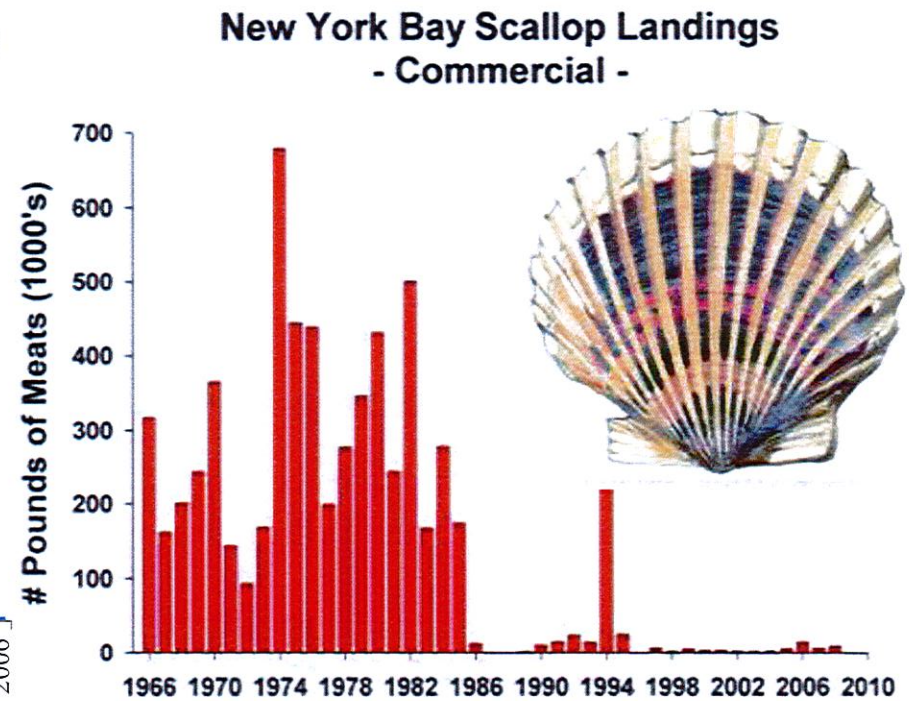


Nitrogen impacts on shellfish

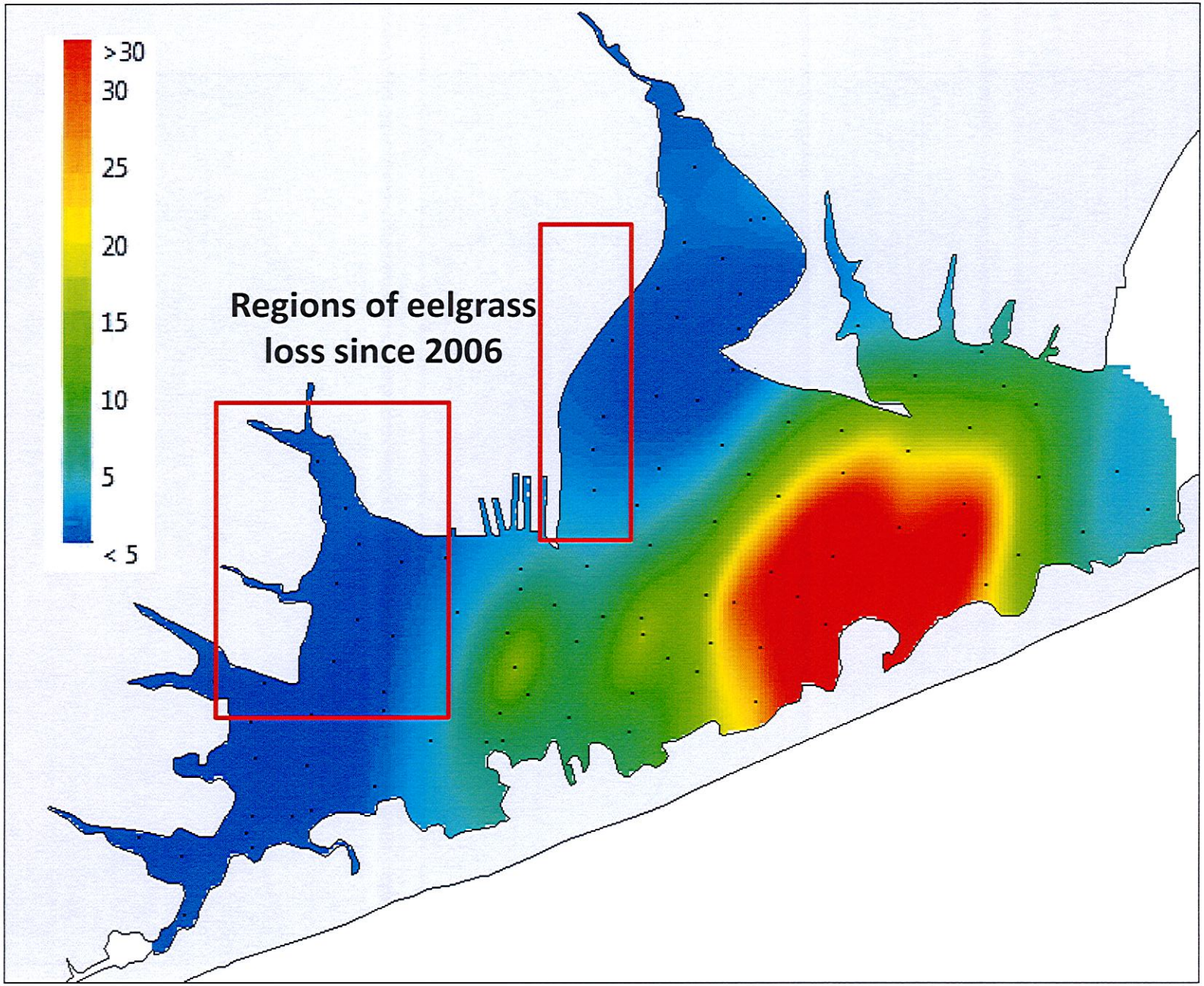
- Landings of clams and scallops have declined 99% since 1980.

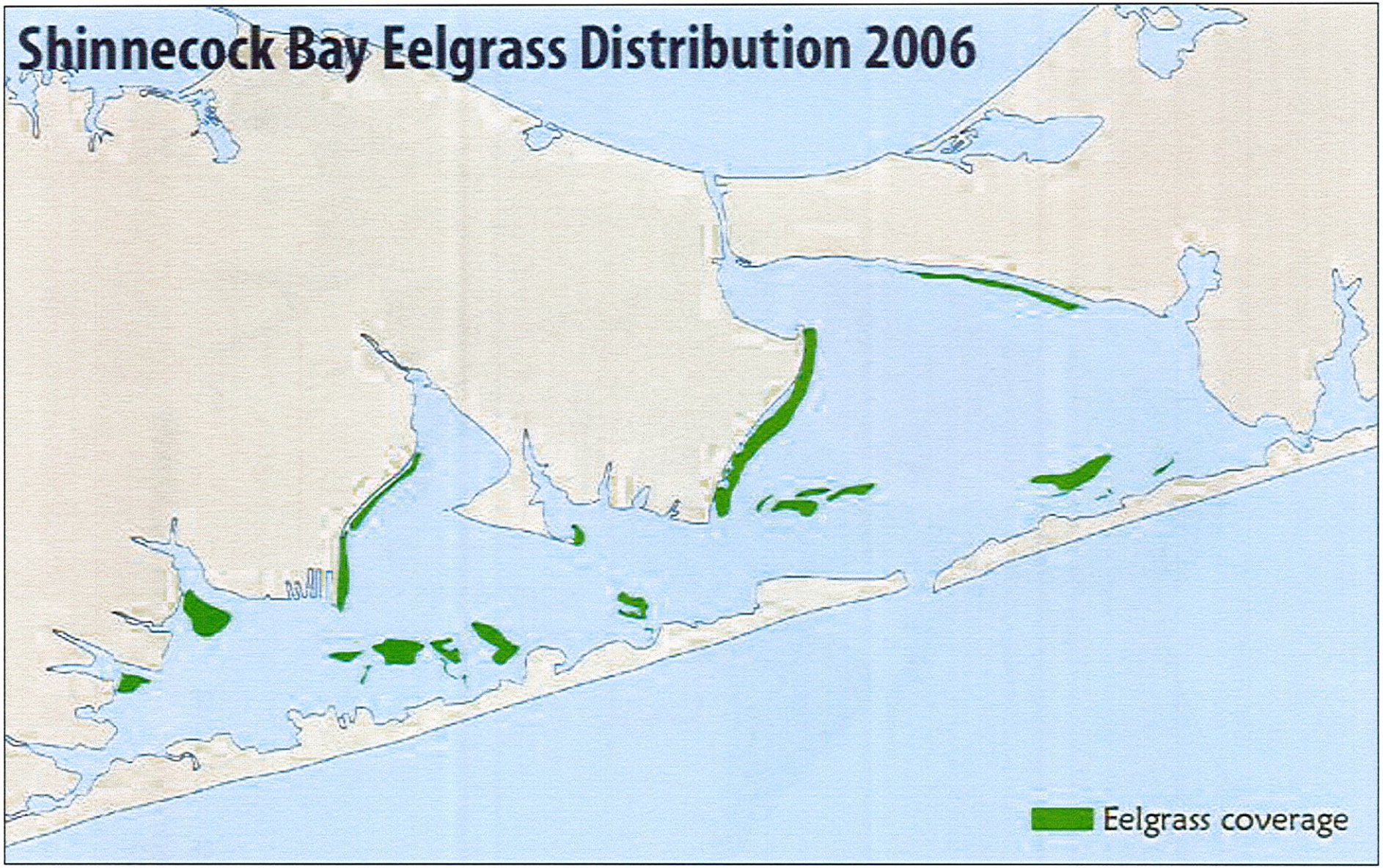
- Linkages to nitrogen driven HABs, habitat loss, and water quality degradation.





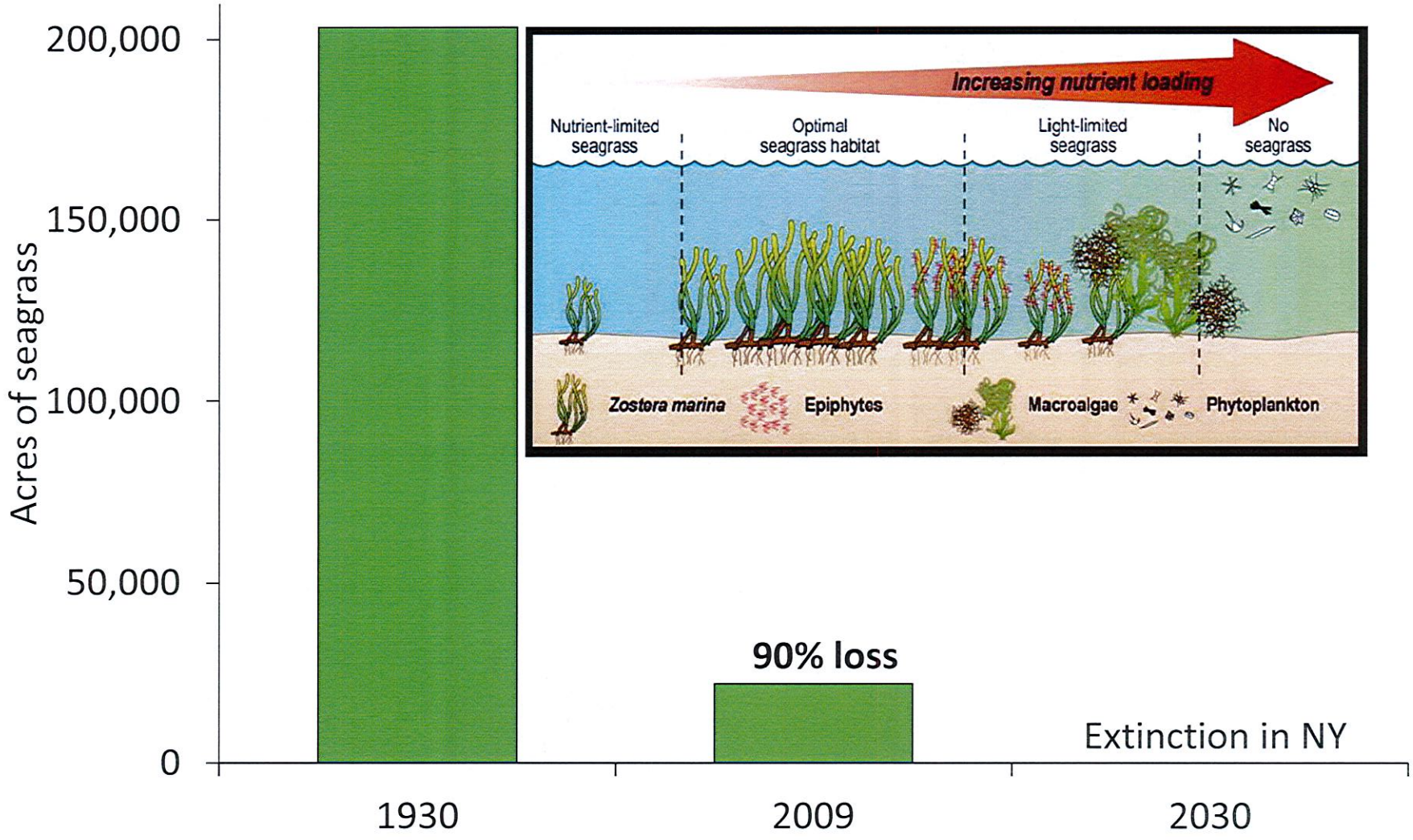
Percent coverage of eelgrass, *Zostera marina*, across Shinnecock Bay, 2015.





Cornell Cooperative Extension

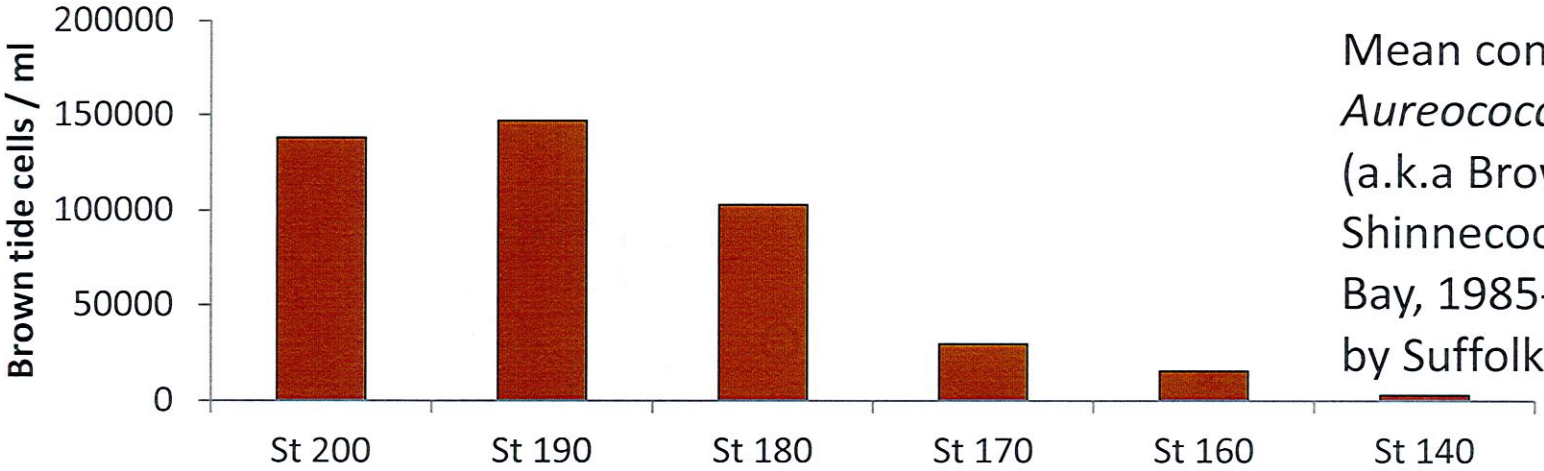
NYS seagrass, 1930 - 2030



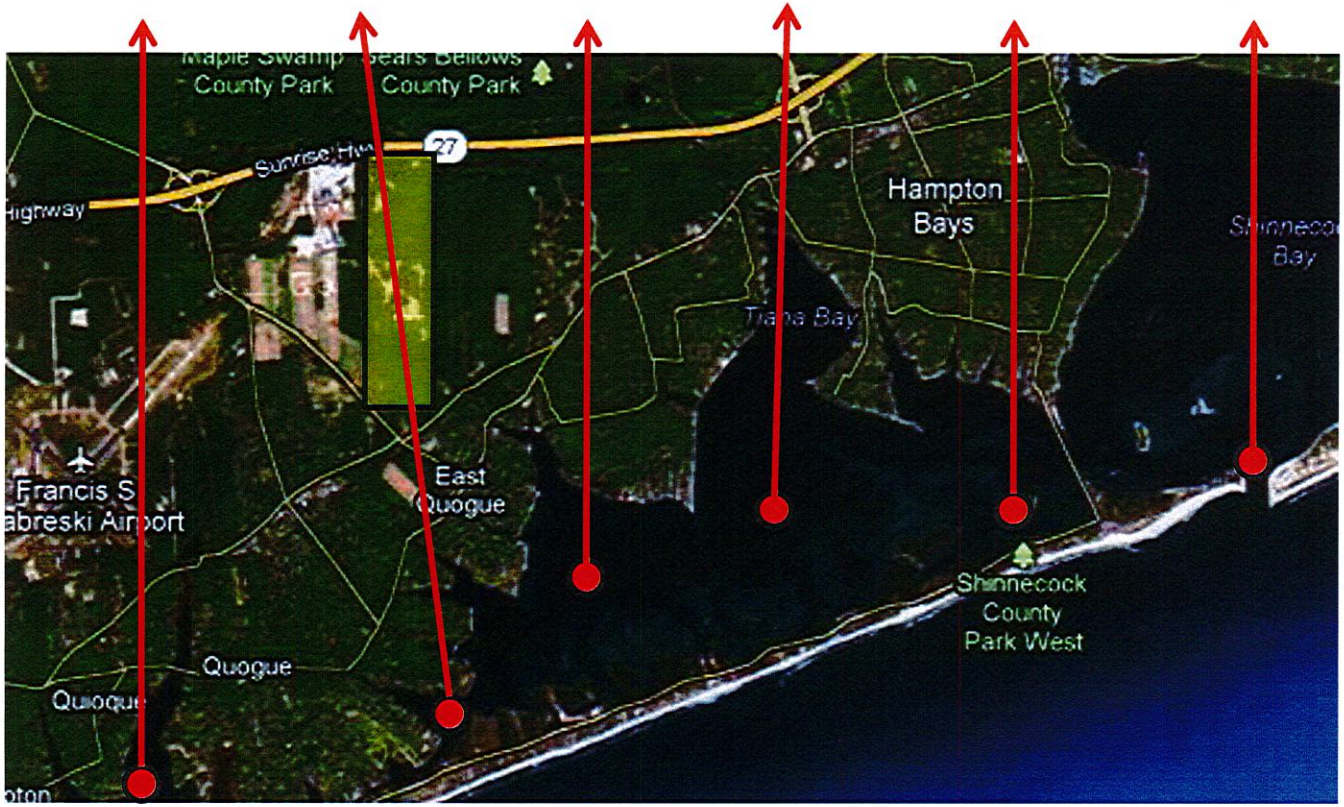
NYSDEC Seagrass Taskforce Final Report, 2010; Suffolk County assessment, 2014

Seagrass: Critical habitat for fish and shellfish

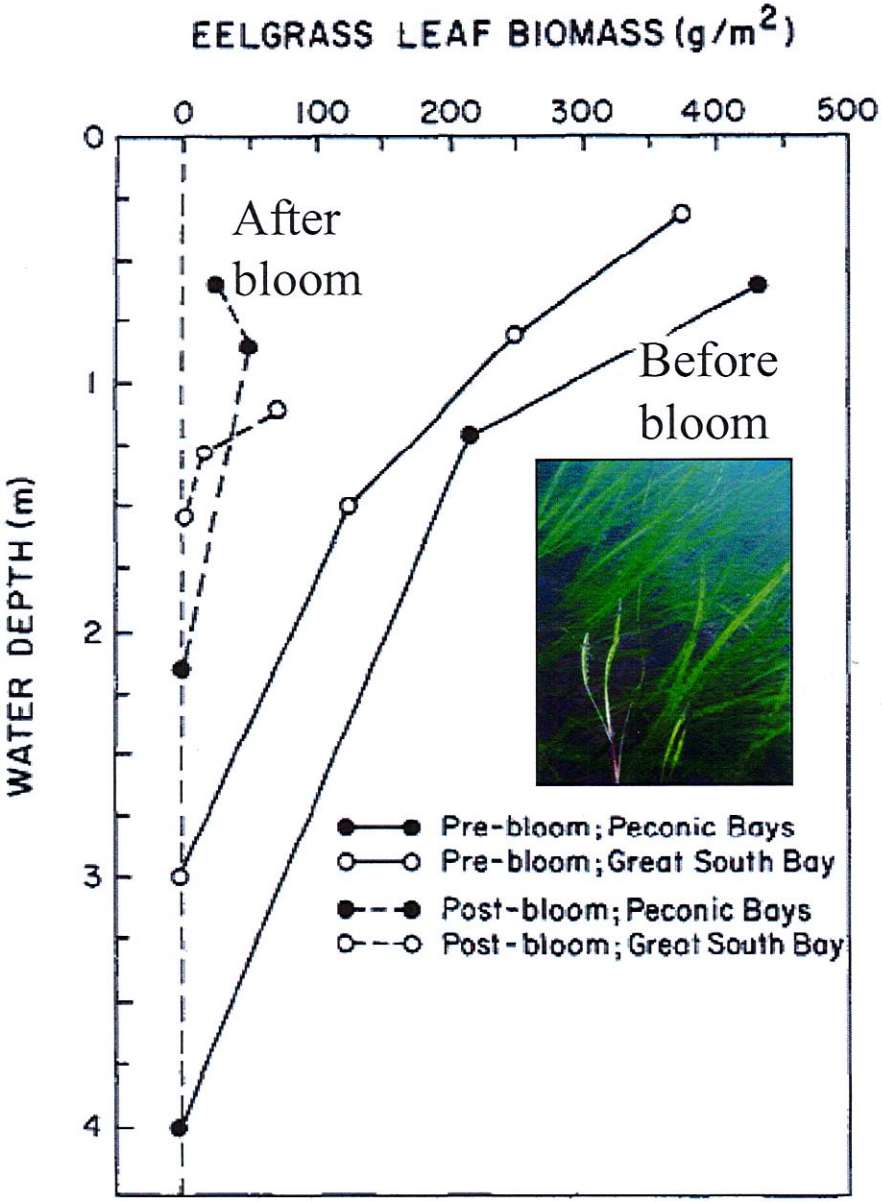
Brown tide is most intense in western Shinnecock Bay

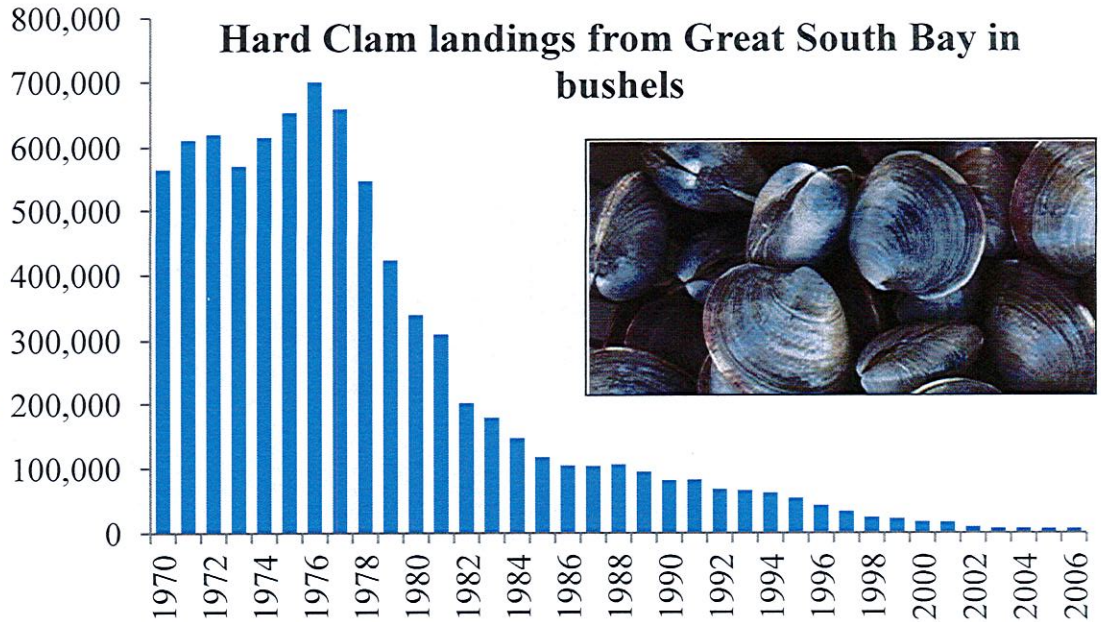


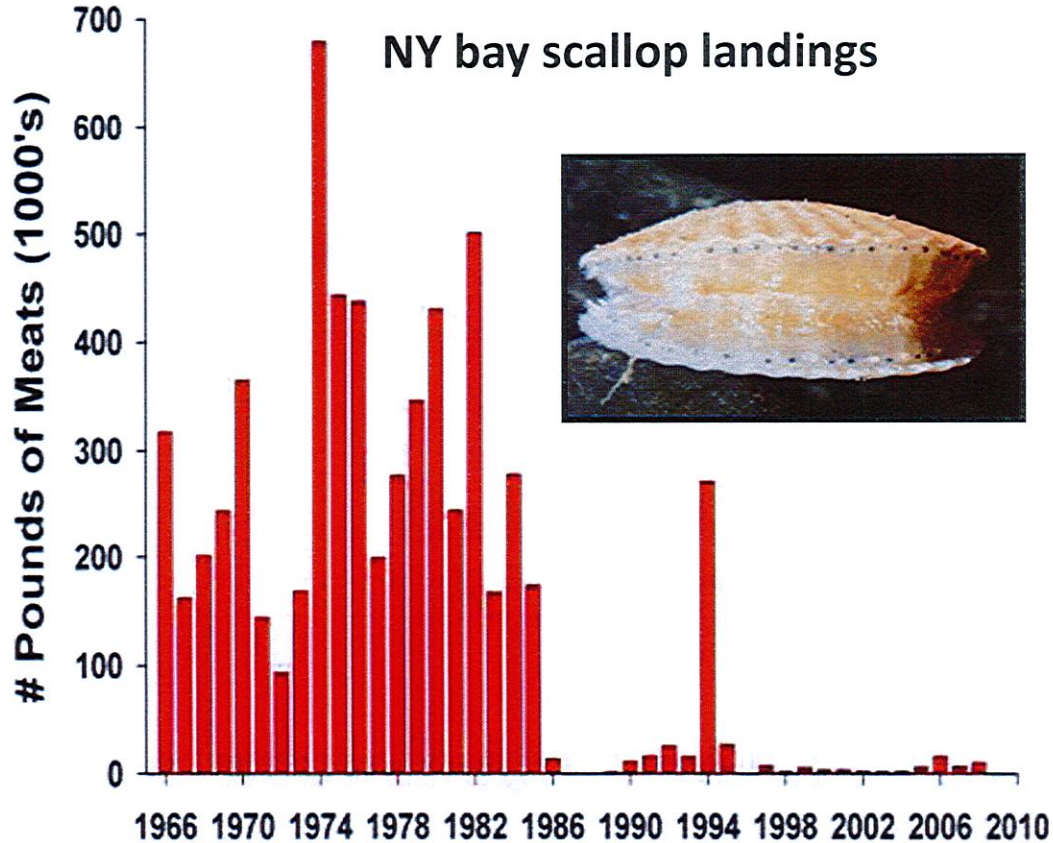
Mean concentrations of *Aureococcus anophagefferens* (a.k.a Brown tide) across Shinnecock and Quantuck Bay, 1985-2010, as measured by Suffolk County.

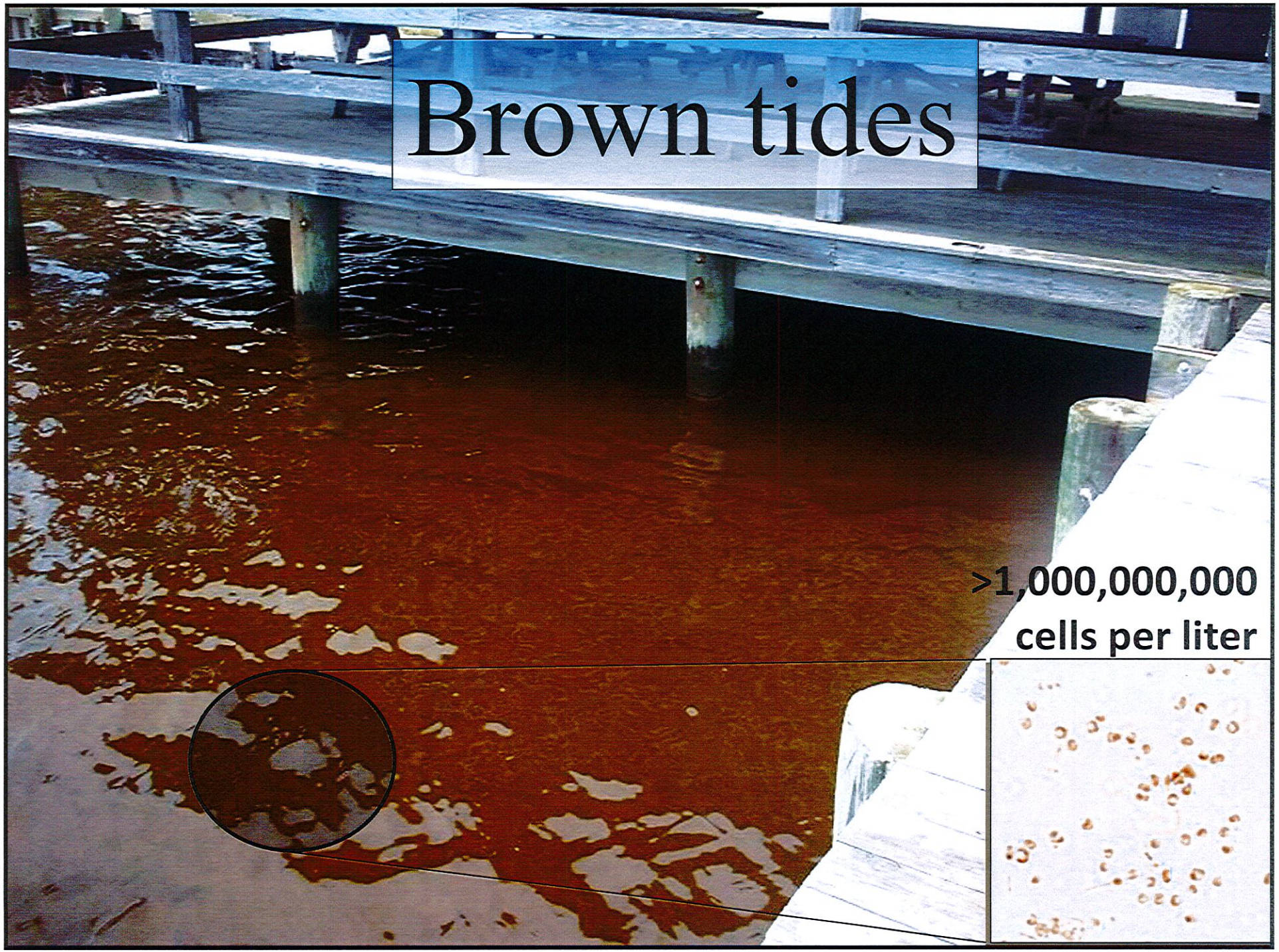


Impacts of brown tides in New York








Brown tides
>1,000,000,000
cells per liter

Shinnecock Bay degradation risk

Contents lists available at ScienceDirect

Harmful Algae

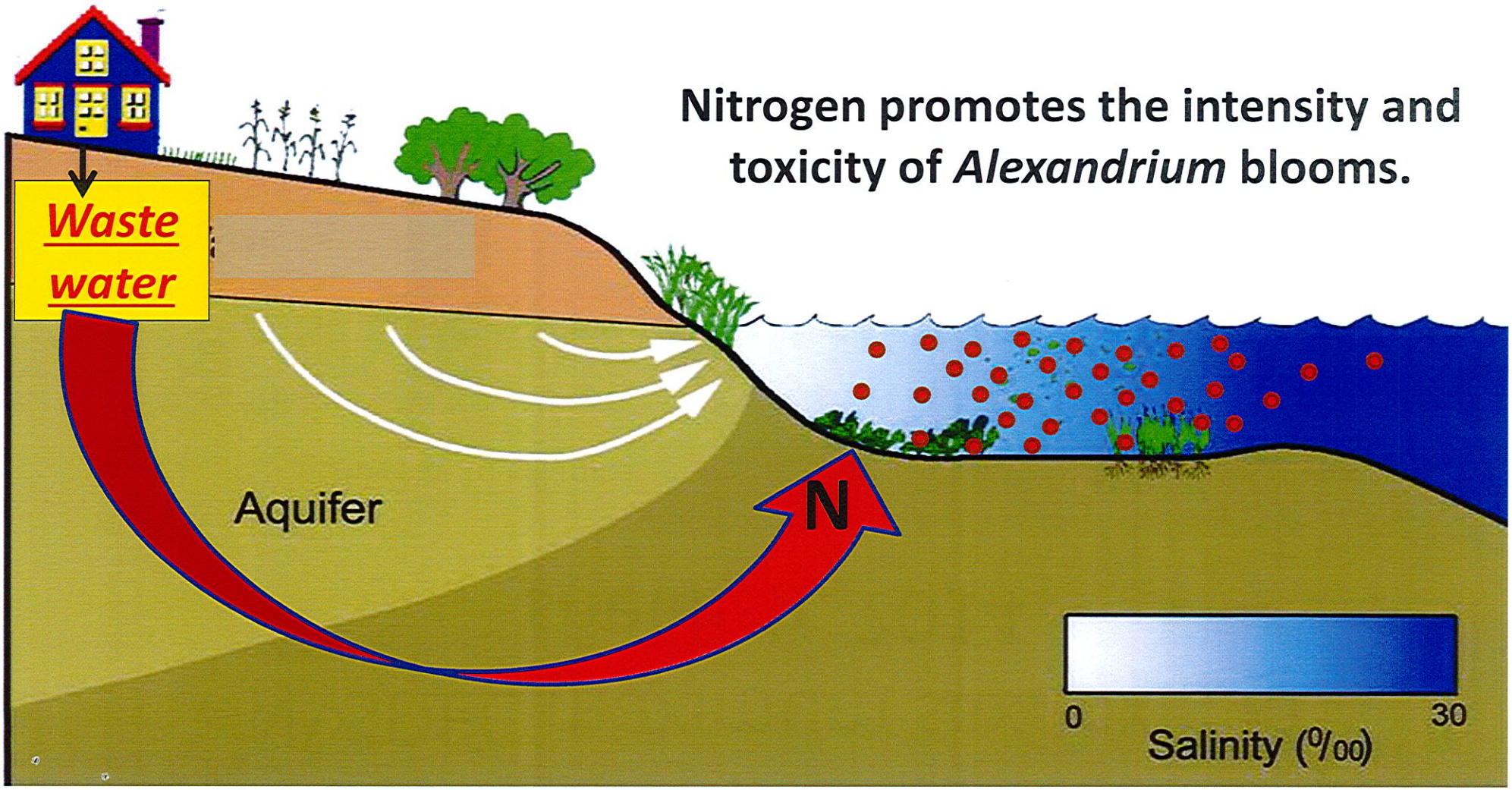
journal homepage: www.elsevier.com/locate/hal

The influence of anthropogenic nitrogen loading and meteorological conditions on the dynamics and toxicity of *Alexandrium fundyense* blooms in a New York (USA) estuary

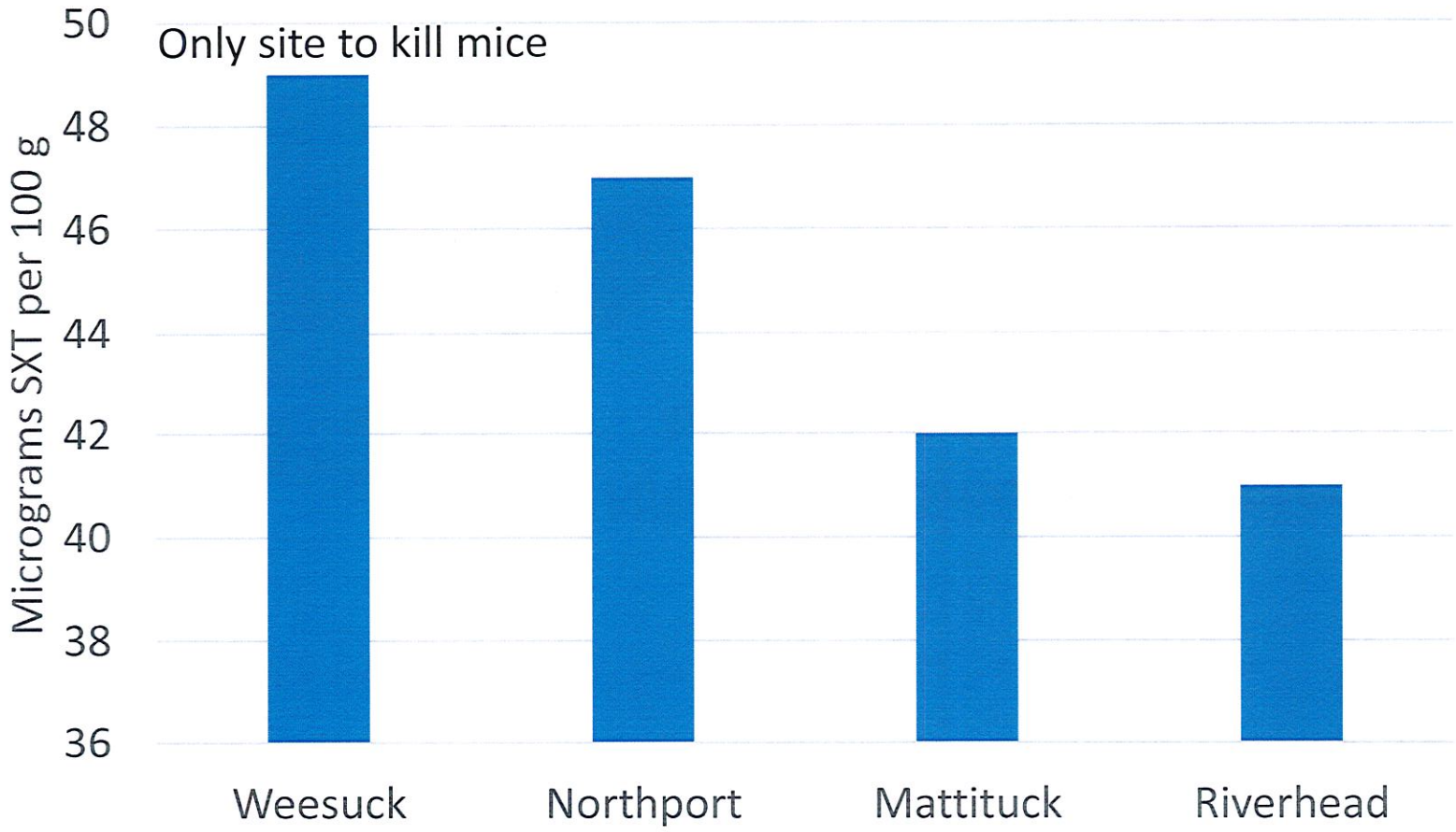
Theresa K. Hattenrath[a], Donald M. Anderson[b], Christopher J. Gobler[a,*]

Saxitoxin

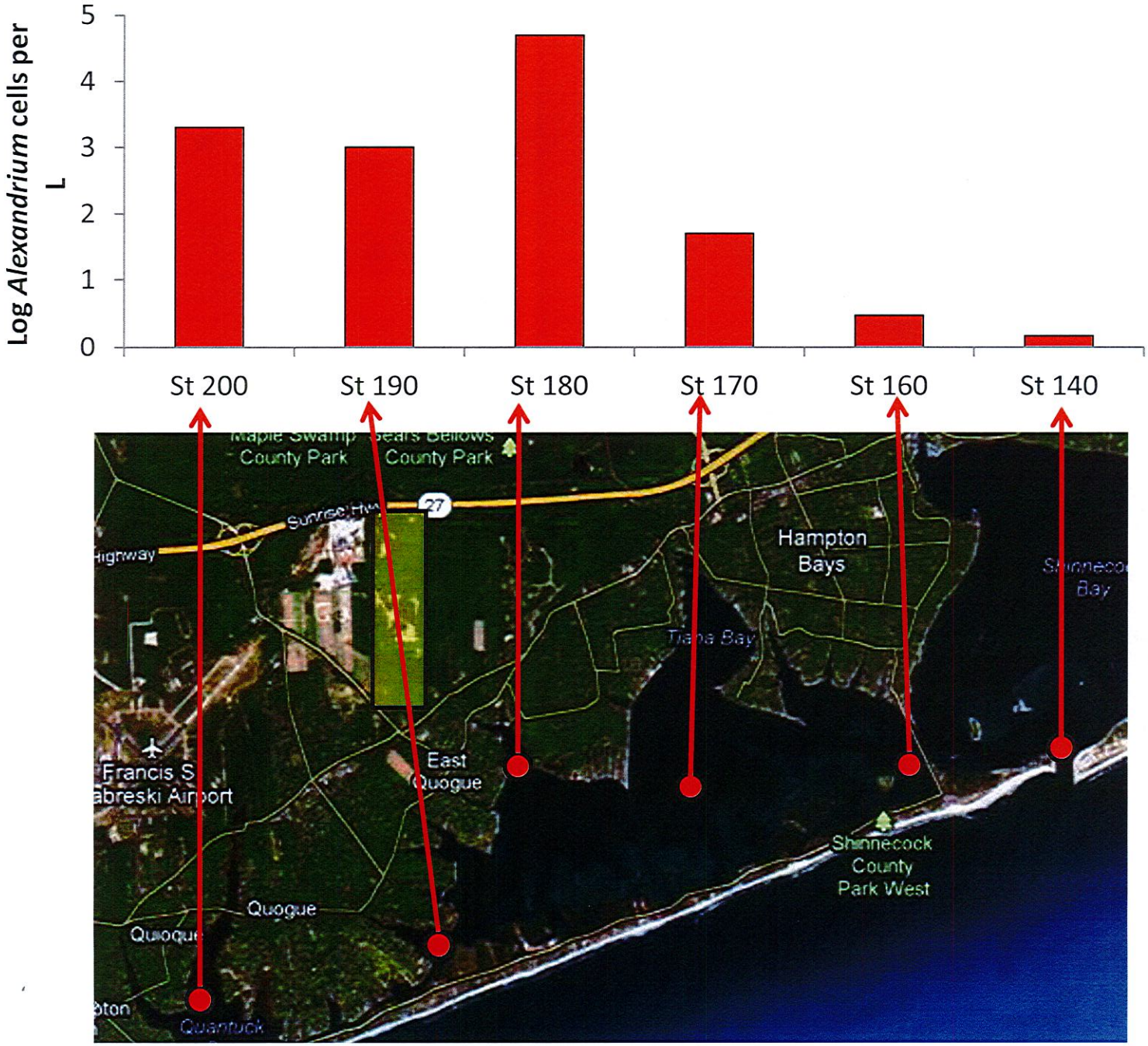
Nitrogen promotes the intensity and toxicity of *Alexandrium* blooms.



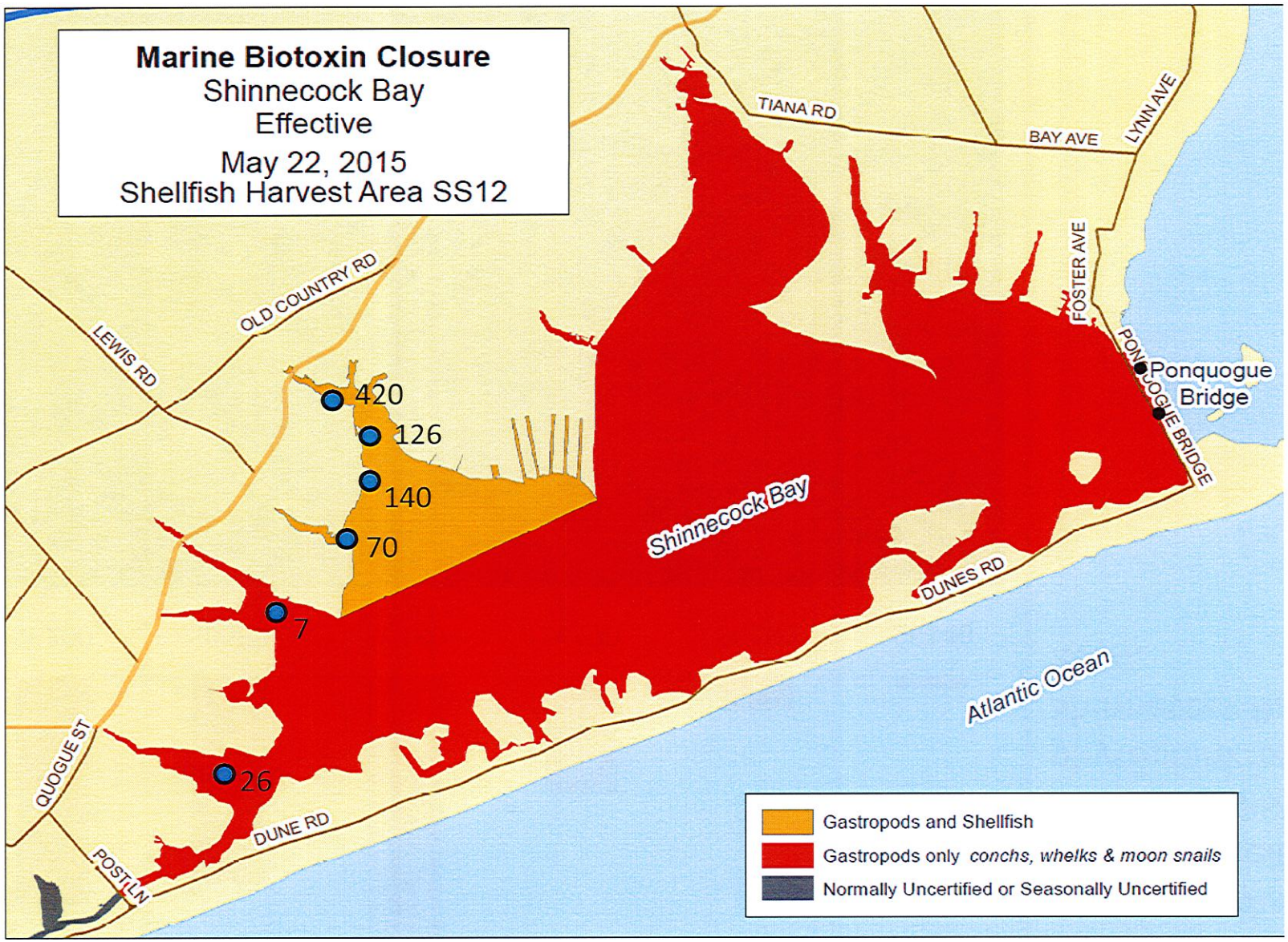
NYSDEC maximum saxitoxin in shellfish, 2014



Weesuck Creek is the epicenter of PSP in Shinnecock Bay

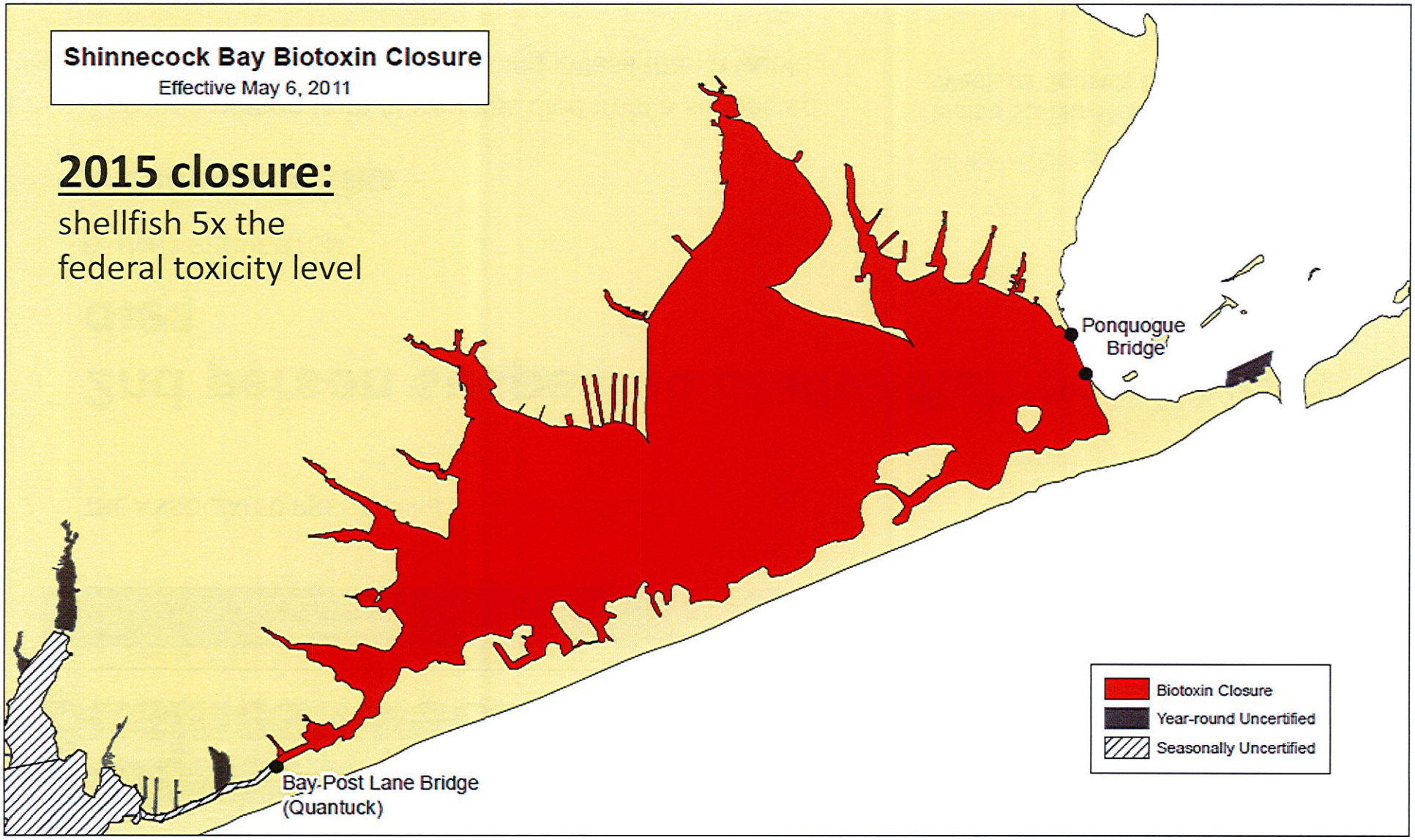


Maximum concentrations of *Alexandrium*, the paralytic shellfish poisoning (PSP) red tide phytoplankton, across Shinnecock Bay, 2008-2014.



Alexandrium densities (cells L^{-1}) from two cruises (May 6th and May 11th 2015) depicted.

PSP outbreaks in Shinnecock Bay, 2011, 2012 , 2015



Bloomberg Businessweek

THE ASSOCIATED PRESS June 23, 2010, 9:38AM ET

2nd person suspected of shellfish poisoning dies

By MARY PEMBERTON

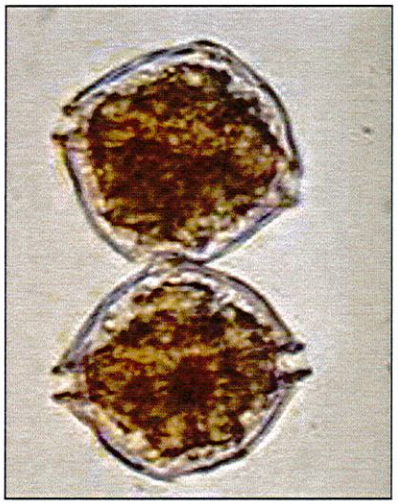
ANCHORAGE, ALASKA

A second person from Alaska has died from a suspected case of paralytic shellfish poisoning in less than a week.

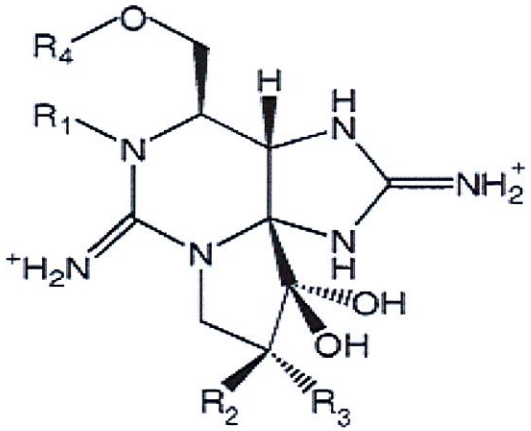
MORE FROM BUSINESSWEEK

Indian Stocks Retreat for Fourth Week on Subsidy Concern

Alexandrium red tides and paralytic shellfish poisoning (PSP)



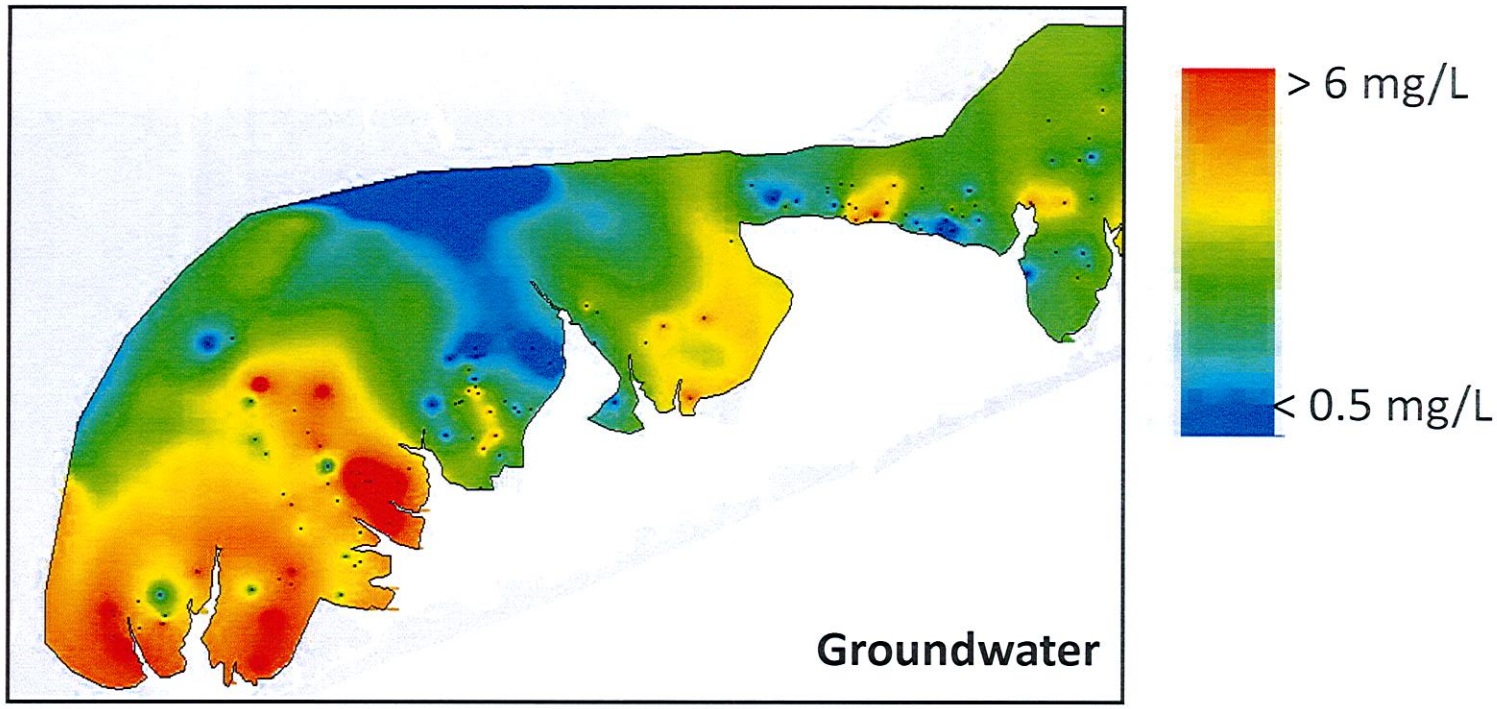
Alexandrium

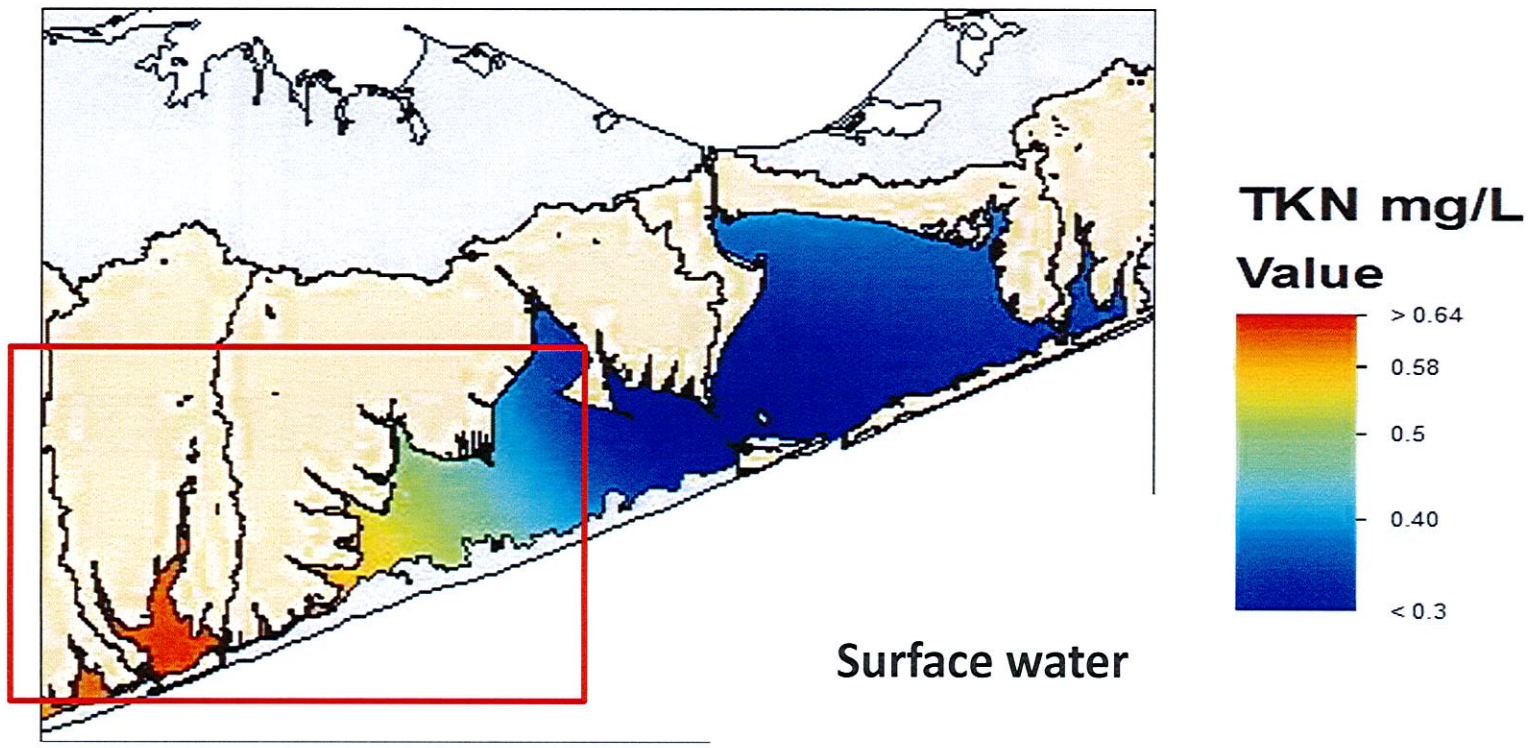


Saxitoxin

Human health

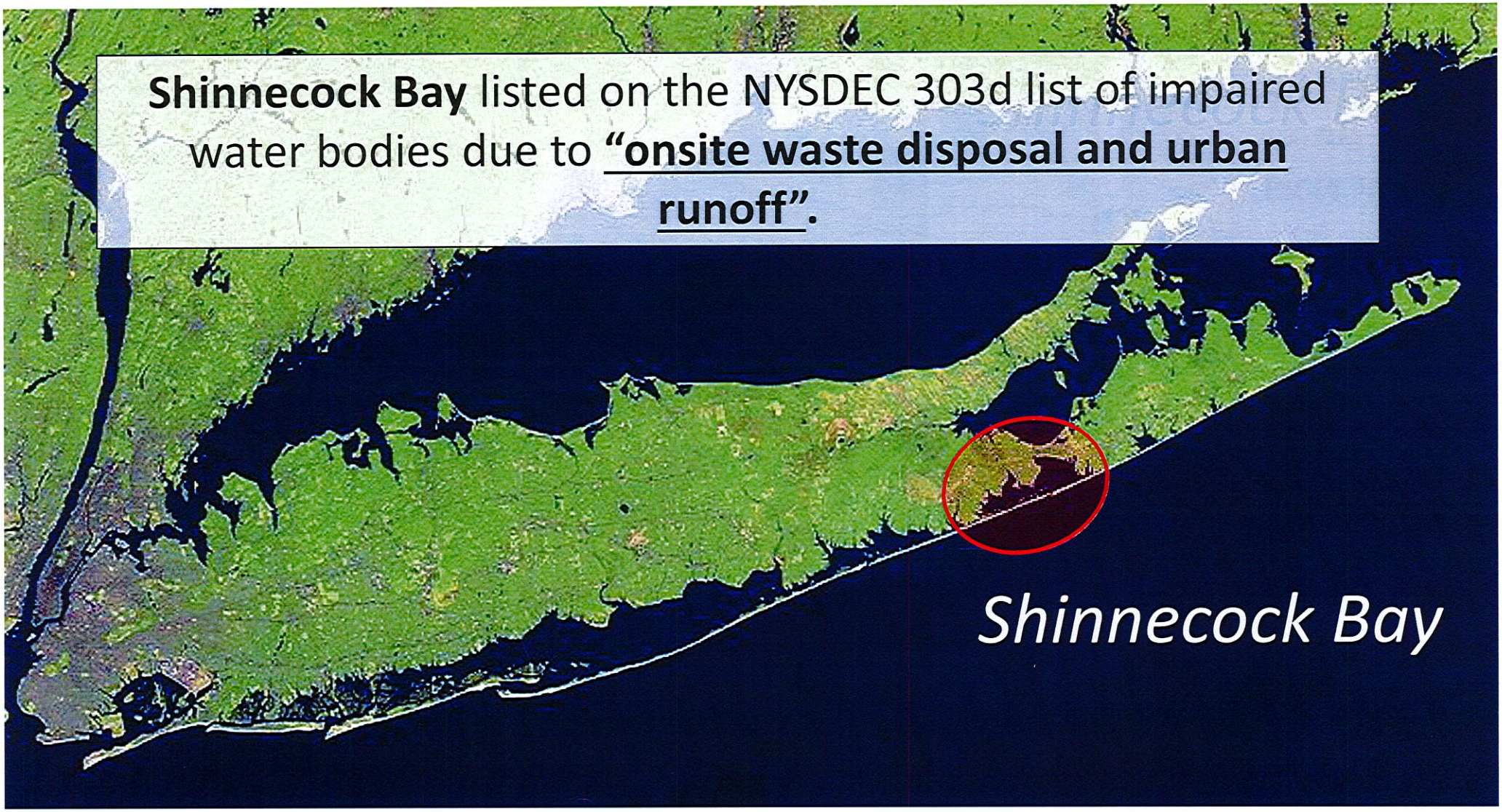
Nitrate in groundwater and surface water





Exceeds EPA guidance level for estuaries

Shinnecock Bay: Impaired Water Body



Main Office
116 HAMPTON ROAD
SOUTHAMPTON, NY 11968
Phone: (631) 287-5740
Fax: (631) 283-5606

TOWN OF SOUTHAMPTON

OFFICE OF TOWN CLERK
SUNDY A. SCHERMEYER

Town Clerk Annex
Phone: (631) 723-2712
Fax: (631) 723-3080
Website:
www.southamptontownny.gov

85

MEMO

TO: Supervisor Jay Schneiderman
Councilman John Bouvier
Councilman Stan Glinka
Councilwoman Julie Lofstad
Councilwoman Christine Preston Scalera

CC: Kyle P. Collins, Town Planning and Development Administrator

FROM: Sundy A. Schermeyer, Town Clerk

DATE: January 20, 2017

RE: Communication re: The Hills at Southampton MUPDD
From Richard Amper, Southampton Water Protection Alliance

Attached please find the following documents filed on January 17, 2017 by Richard Amper on behalf of the East Quogue Civic Association and the Southampton Water Protection Alliance regarding the proposed Hills MUPDD, East Quogue:

1. Cover Letter d. 1/12/17
2. Copy of a PowerPoint Presentation from the Citizens' Public Hearing on January 7, 2017
3. DVD of Community Forum on Alternative to "The Hills" Mega Development

Please do not hesitate contacting my office with any questions.

Enclosure(s)

SAS:kao

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TOWN CLERK FILE

MEMO

TO: Supervisor Jay Schneiderman
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Enclosure(s)

SAS:kao

Copy received: Supervisor Schneiderman _____

Town Council JB _____

Kyle P. Collins _____

TOWN CLERK FILE

RECEIVED

85

2017 JAN 17 AM 11:29
TOWN OF SOUTHAMPTON
TOWN CLERK'S OFFICE

TO: Sundy A. Schermeyer, Southampton Town Clerk
FROM: Richard Amper, Southampton Water Protection Alliance
RE: "The Hills at Southampton" PDD Application
DATE: January 12, 2017

The following is submitted to be included on the record of the application of Discovery Land Company in connection with a proposed Planned Development District in the Long Island Pine Barrens at East Quogue.

The material includes video material (approximately one hour and five minutes in length) on the following topics:

1) Testimony by New York State Assemblyman Fred W. Thiele, Jr. who expressed opposition to the proposed project, principally on the ground that the project would contribute to the deterioration of groundwater at the site and adjoining areas at a time when the town and many other government agencies are seeking to reverse previous nitrogen contamination.

2) Testimony by Suffolk County Legislator Bridget Fleming who also expressed opposition to "The Hills at Southampton," pointing out that she had, as a Town Council member, voted two years ago against the proposed development during pre-application proceedings on the Planned Development District. She too, said that "The Hills" project was contrary to the water protection objectives of the town of Southampton when the property was re-zoned to the most protective in the town.

3) Professor Christopher Gobler of Stony Brook University and director of the Stony Brook Center for Clean Water Technology testified that he had thoroughly reviewed the applicant's Draft Environmental Impact Statement and had concluded that representations concerning the amount of nitrogen likely to be discharged to the property were "The Hills" to be developed as proposed, was much lower than sci-

ence now demonstrates. His Powerpoint presentation is contained along with this included video and is intended to be part of this record.

4) Next, Robert DeLuca, president of the Group for the East End, testified concerning the water quality objectives or his organization and the Southampton Water Quality Alliance with which his organization is associated. He indicated that preservation of the subject property has been and still is his organization's preference, but that "The Hills'" application required that he and other addressed the PDD application itself, first. His Powerpoint is also included for the record.

5) DeLuca's presentation was expanded by Lisa Liquori, a former East Hampton Town Planning Director and now CEO of Fine Arts & Scientists – a planning and design firm that she founded. Her testimony, presentation and Powerpoint are included in this submission for the record. She testified that a proposed Reduced Impact Alternative would be very much less environmentally compromising than either "The Hills" PDD or what Discovery Land represents to be an "as-of-right alternative. She said that her proposal would only develop 4% of the site, in the already cleared portion of the lot, whereas the Discovery PDD would develop 28% of the lot. The Reduced Impact Alternative would result in 74% less clearing, 100% more preserved contiguous open space. It would require 78% less water than the Discovery PDD and have 51% less overall wastewater flow. The Reduced Impact Alternative would contribute 100% less nitrogen loading from turf, as it does not include a golf course, and 72-88% less nitrogen loading from buildings. There would be 25% fewer residences. Last, there would 75-78% less peak hour traffic with a Reduced Impact Alternative.

6) The final speaker (the program was truncated by the onset of a snow blizzard) was Jeffrey Bragman, Esq, a South Fork land use attorney. He explained provisions of the New York State Environmental Quality Review Act that are applicable to "The Hills' application and the role of the public in general and Reduced Impact Alternatives in particular, in decision-making on the part of the Southampton Town Planning Board. Mr. Bragman explained that the so-called "as-of-right" alternative to "The Hills" He explained provisions of the New York State envi-

(85)

TOWN CLERK FILE

RECEIVED
JAN 17 2017
TOWN CLERK

Citizens' Public Hearing

January 7, 2017

East Quogue Elementary School

A Better Choice

East Quogue Civic Association
Southampton Water Protection Alliance

Citizens' Public Hearing – Agenda

- **Welcome**
  Al Algieri, East Quogue Civic Association
- **Public Service Announcement on "The Hills" by Alec Baldwin**
- **Elected Officials**
  New York State Assemblyman Fred Thiele
  Suffolk County Legislator Bridget Fleming
- **Water Quality Concerns**
  Dr. Christopher Gobler, Stony Brook University
- **The Reduced Impact Alternative**
  Bob DeLuca, Group for the East End
  Lisa Liquori
- **The Law: "As of Right" vs. "Reduced Impact Alternative"**
  Jeff Bragman, PC
- **The Case Against "The Hills"**
  Andrea Spilka
- **The Trouble with Planned Development Districts**
  Bill Kearns , Main Street Business Owner
- **The Review Process Going Forward**
  Bob DeLuca, Group for the East End
- **Public Comment**

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East Quogue Civic Association
Southampton Water Protection Alliance

ronmental Quality Review Act that are applicable to "The Hills' application and the role of the public in general and Reduced Impact alternatives in particular, in decision-making on the part of the Southampton Town Planning Board. Mr. Bragman explained that the so-called "as-of-right" alternative to "The Hills" is a misnomer. State environmental law, he said, requires the Town Board to prioritize the least environmentally harmful development alternative among those feasible. In the case of this application, the town needs to focus on the alternative that will contribute least to groundwater quality decline.

The information presented in this submission is among the most relevant and useful in the Southampton Town Board's review and consideration of "The Hills" PDD. Note that the testimony contained in the accompanying video has not been edited with respect to speech content. All testimony is exactly as presented at the January 7 forum.

Four copies of the January 7, 2017 presentations and testimony are included, for your convenience and consideration. If you have any questions, kindly call me at (631) 369-3300.

Respectfully submitted,
Richard Amper

For the East Quogue Civic Association and the Southampton Water Protection Alliance.

Welcome!

Al Algieri, East Quogue Civic Association

Elected Officials

New York State Assemblyman Fred Thiele

Elected Officials

Suffolk County Legislator Bridget Fleming

Water Quality Concerns

Dr. Christopher Gobler, Stony Brook University

The East Quogue watershed and its impact on coastal communities and Shinnecock Bay

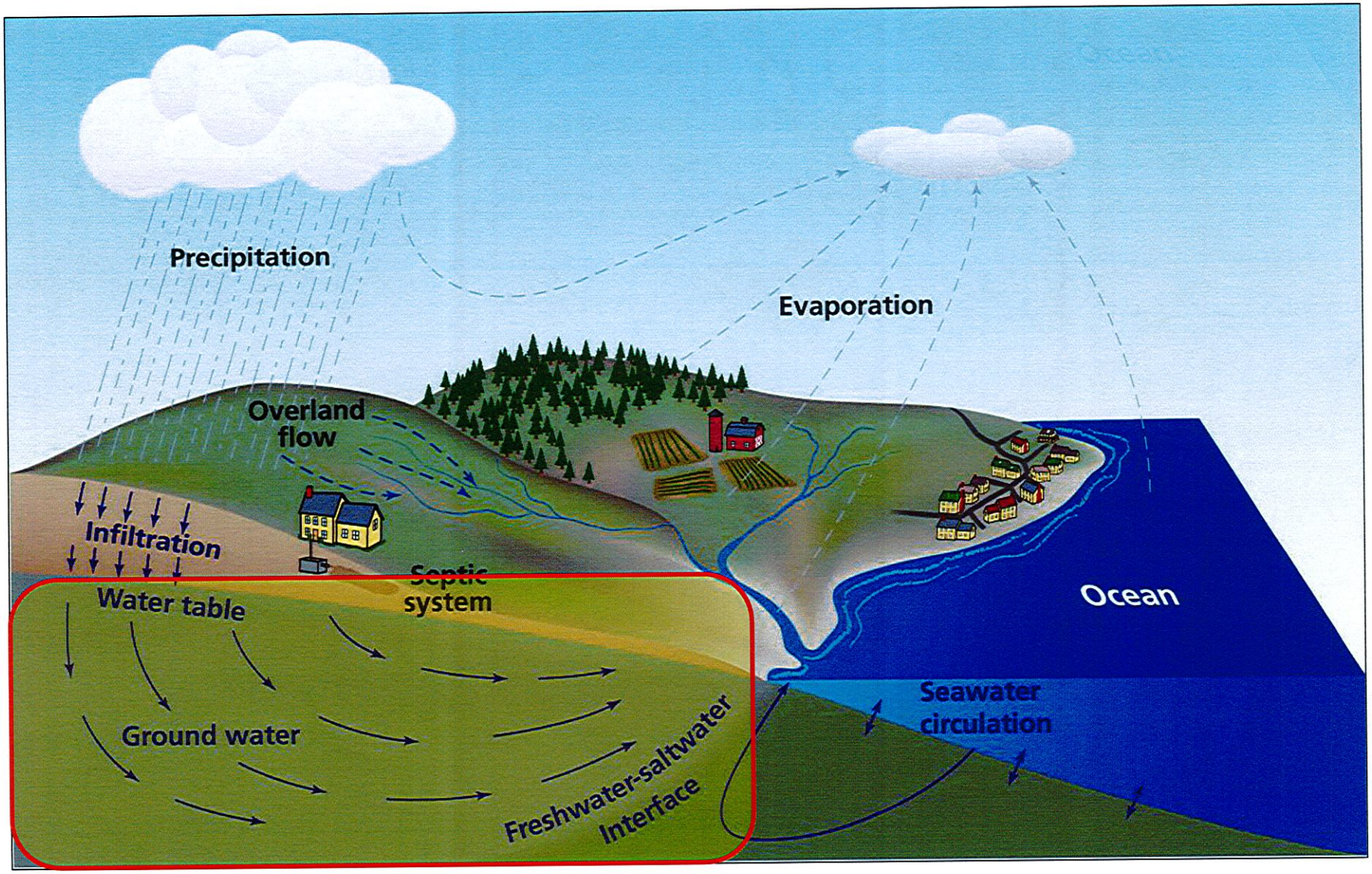
Drs. Christopher Gobler, Dr. Konstantine Rountos, Dr. Theresa Hattenrath-Lehmann, Dr. Bradley Peterson

Stony Brook University
School *of* Marine and Atmospheric Sciences

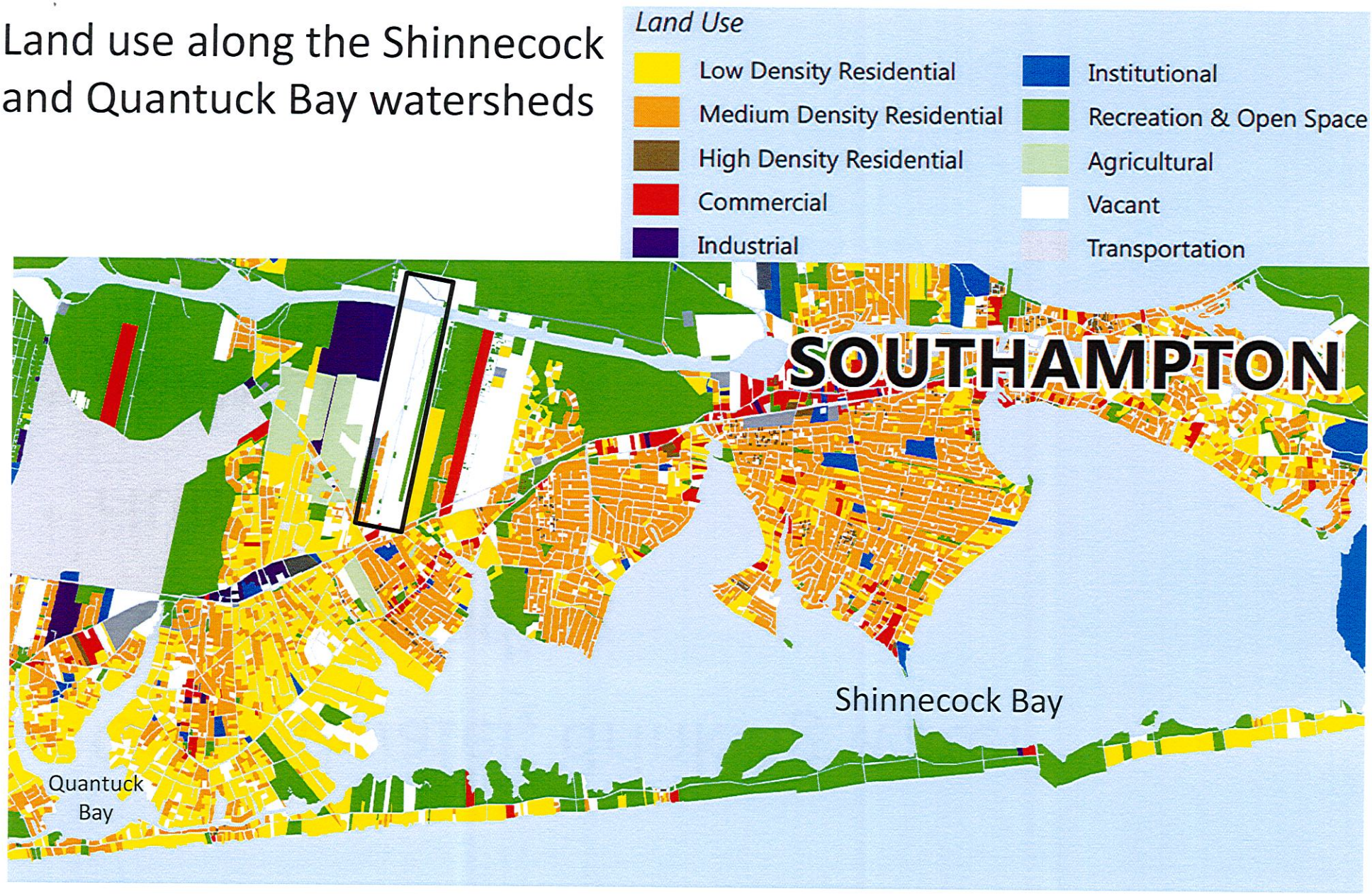
OST VALLEY

Long Island is a watershed -

Materials on land eventually enter our groundwater and surface water.



Land use along the Shinnecock and Quantuck Bay watersheds

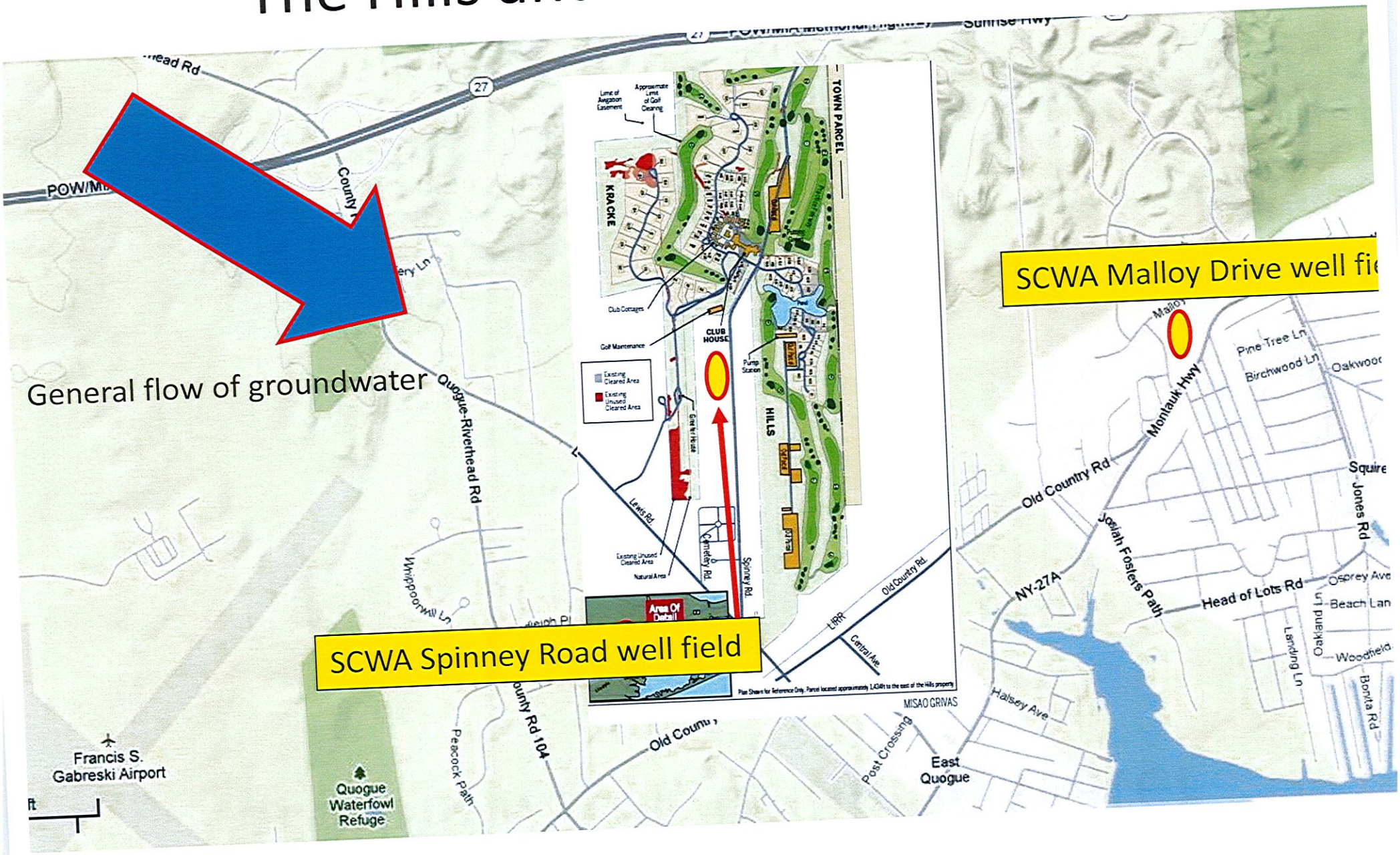


Considerations

- Groundwater, drinking water
- Coastal flooding
- Human health
- Shinnecock Bay

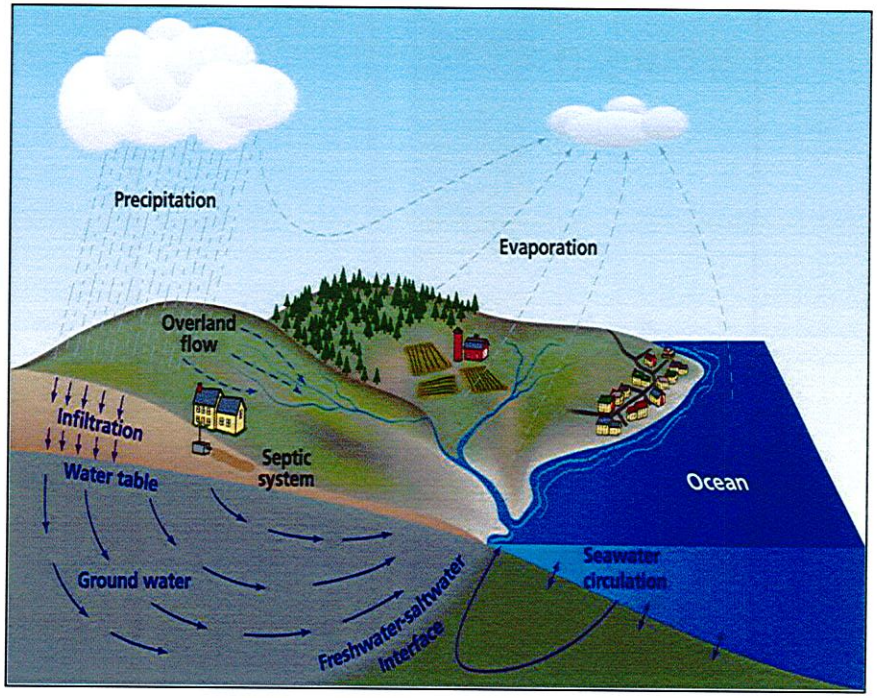
Groundwater, drinking water

The Hills and East Quogue wells



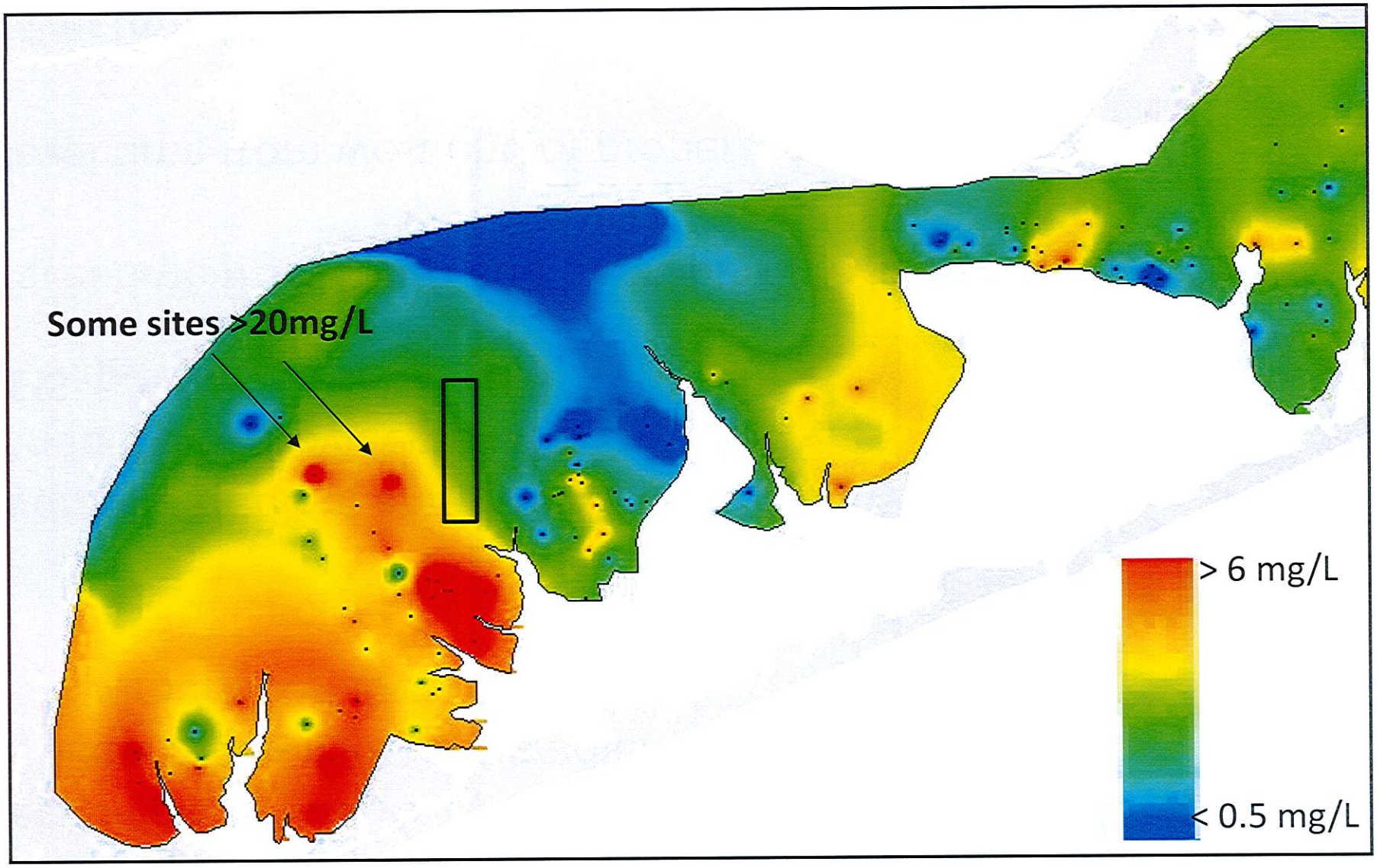
Groundwater travel rates and times

- Determine by Darcy's Law:
  - Flow rate = hydraulic gradient x hydraulic conductivity x aquifer porosity

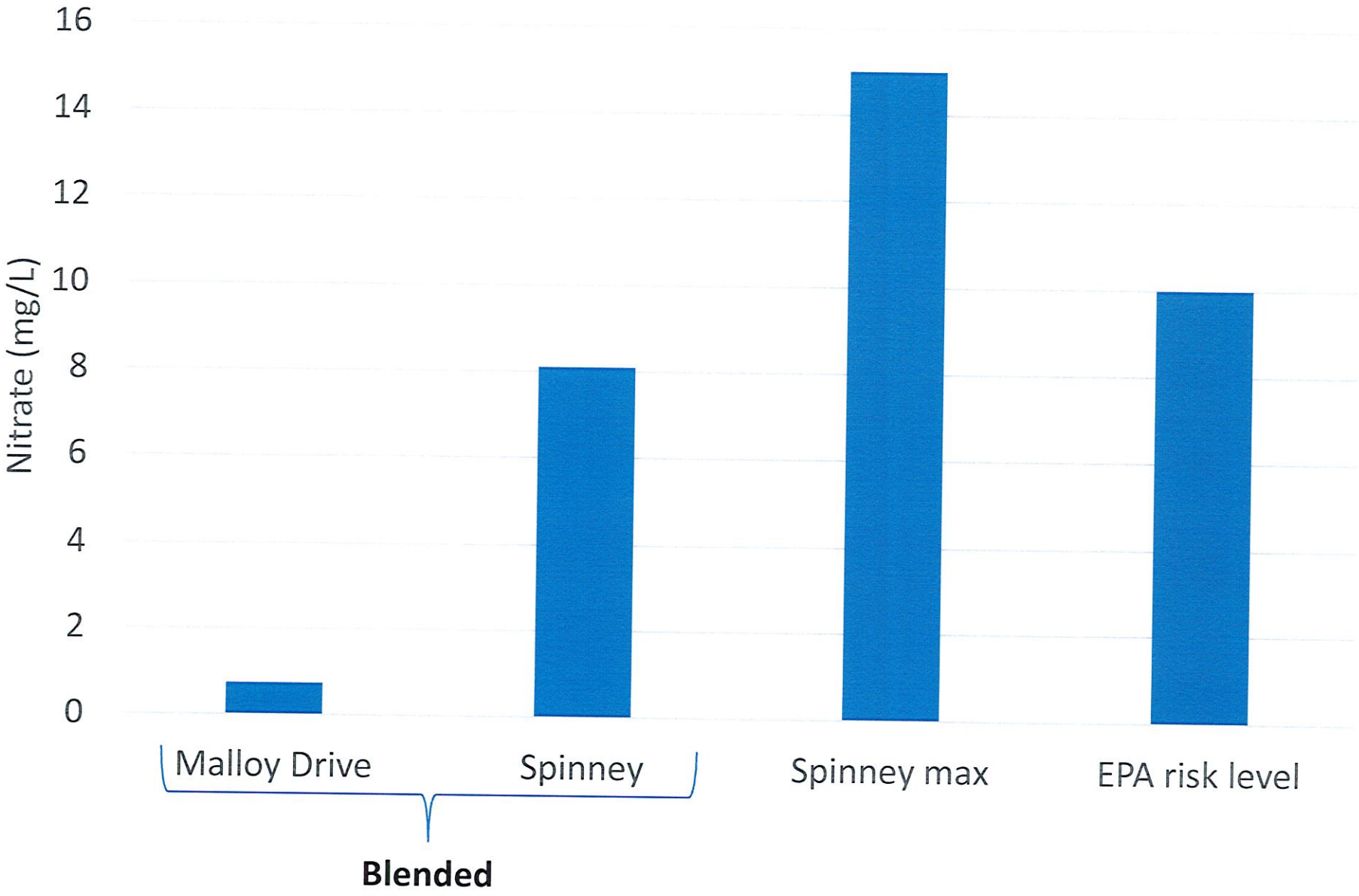


- Hydraulic gradient and hydraulic conductivity provided by the The Hills DEIS; porosity of sand ~ 0.3
- Travel time from south end of property to **Weesuck Creek** = **<u>5 years</u>**
- Travel time from west end of property to **Spinney Rd wells** = **<u>5 years</u>**
- Travel time from west end of property to **Malloy Dr wells** = **<u>20 years</u>**
- Times confirmed by USGS and 3D groundwater models for Suffolk

Nitrate in upper glacial groundwater

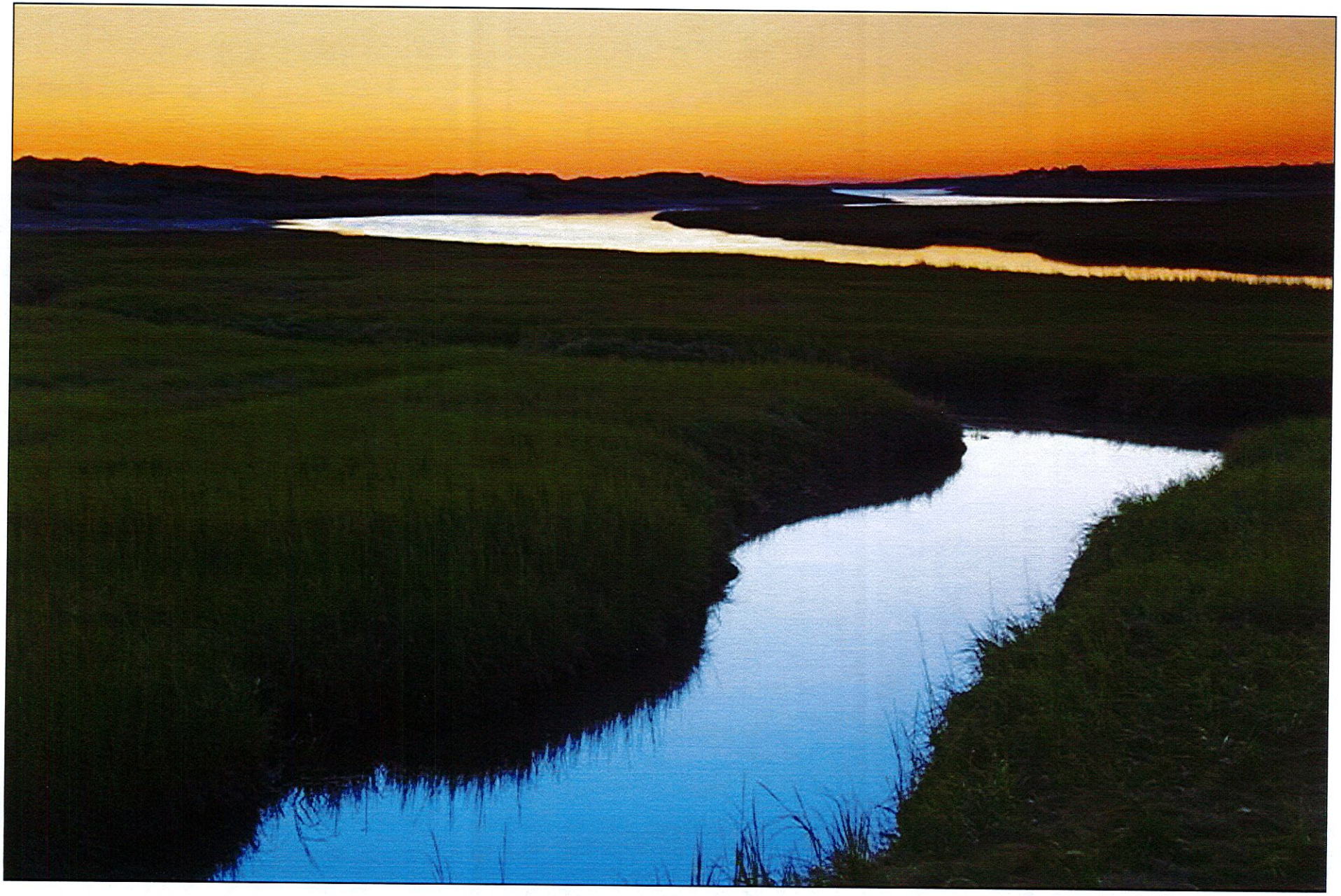


Nitrate in East Quogue SCWA wells

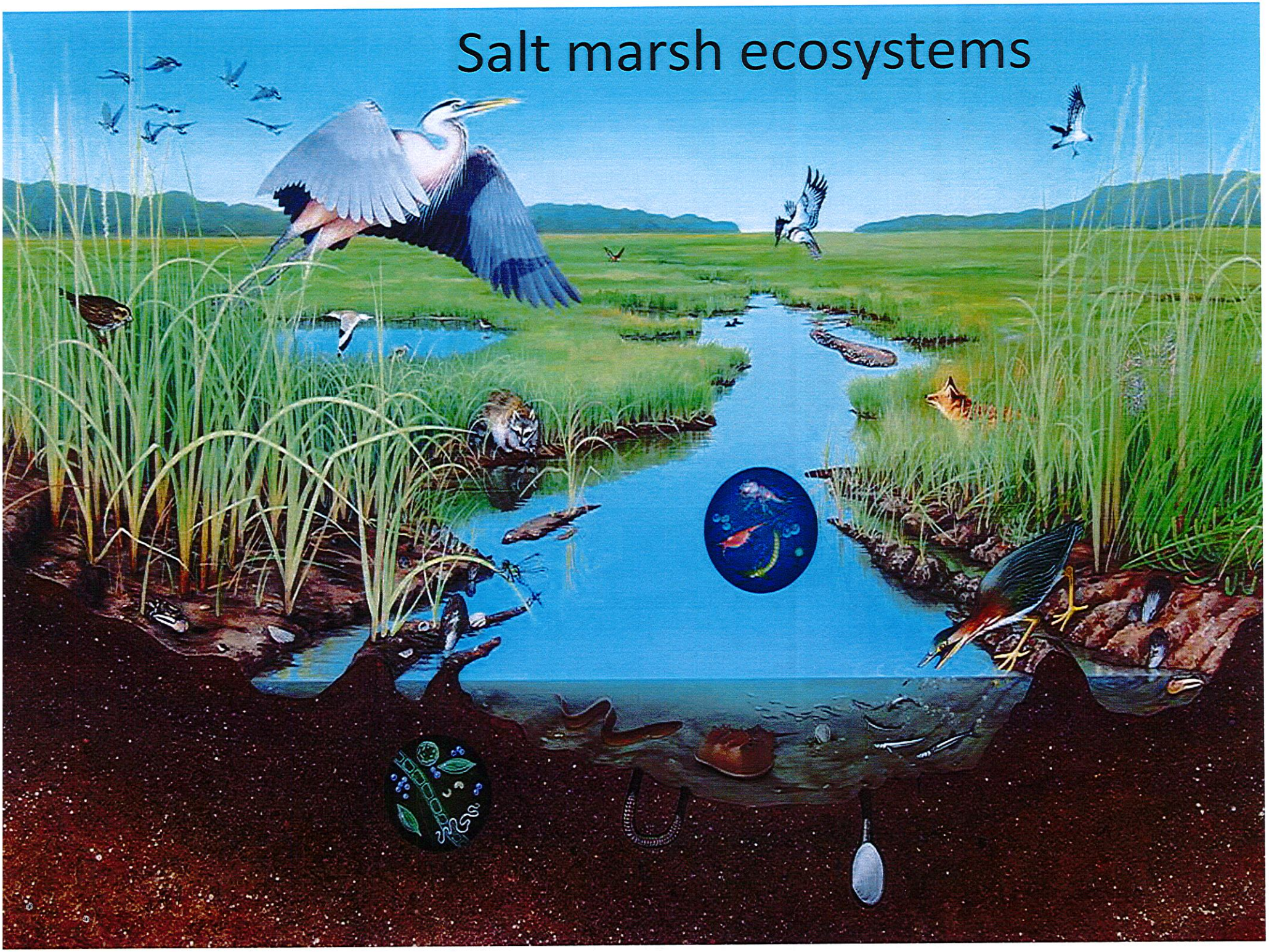


Coastal flooding

The importance of salt marshes

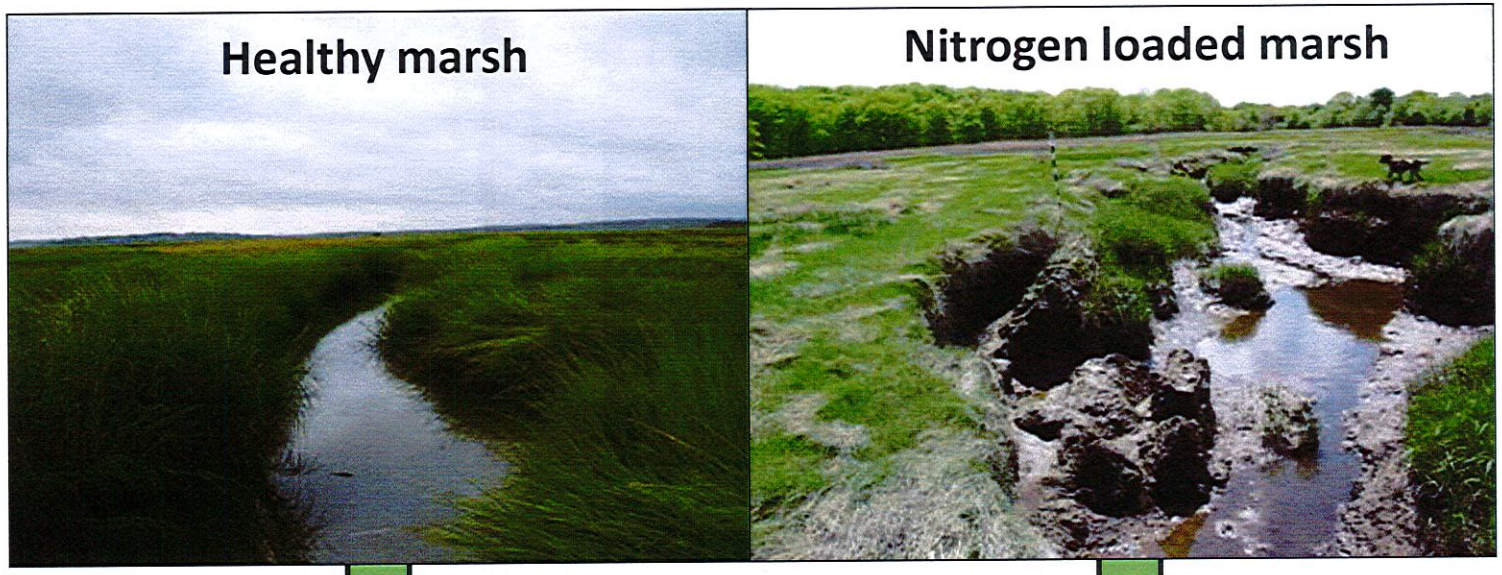


Salt marsh ecosystems

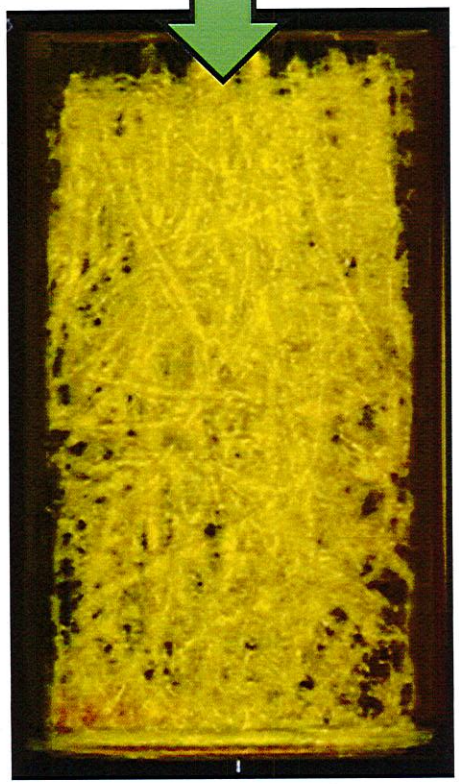


Salt marshes protect coastlines – NYSDEC 2014

"Coastal eutrophication as a driver of salt marsh loss", Deegan et al 2012, Nature

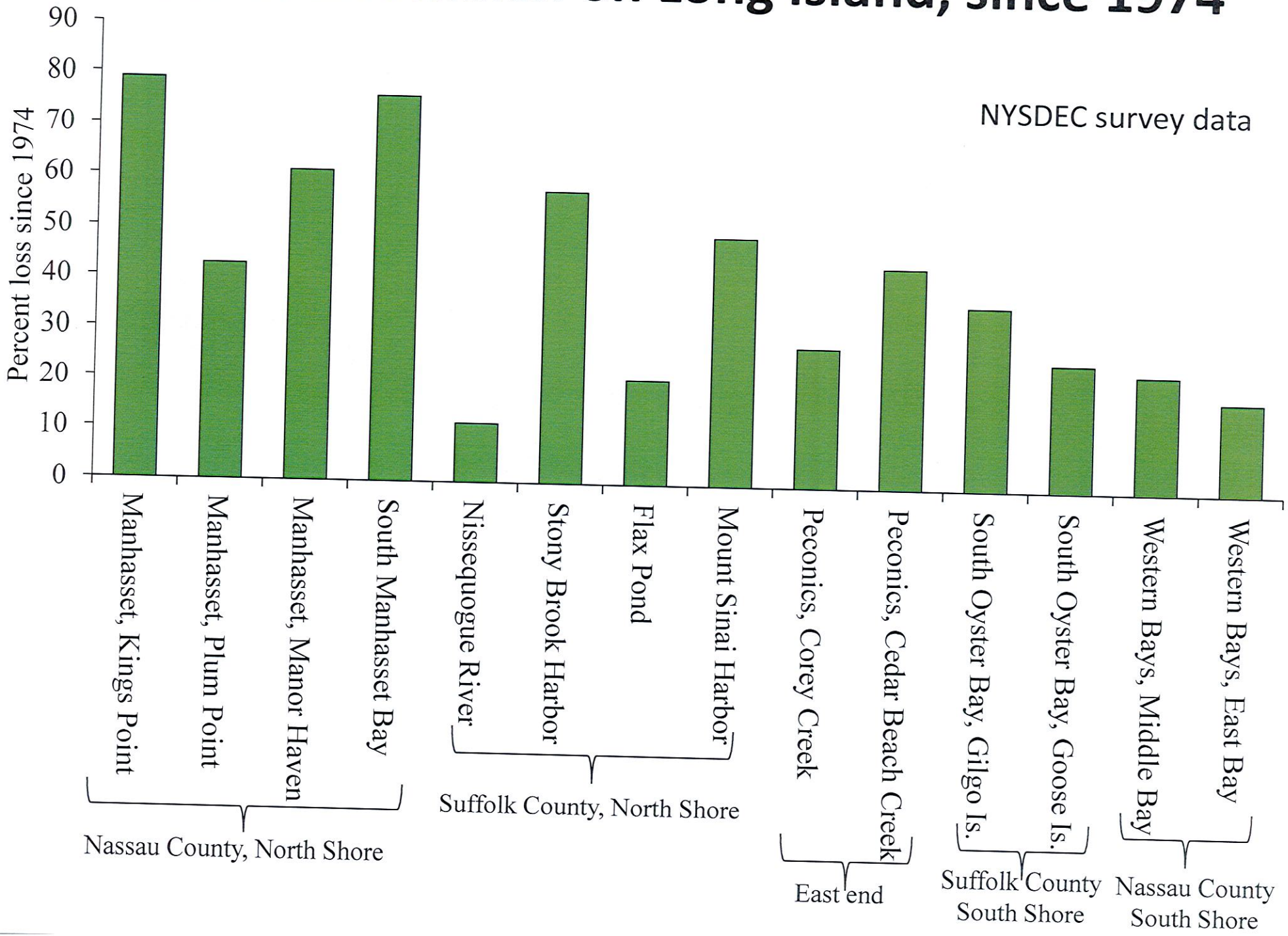


Dense, strong roots



Nutrient weakened, roots

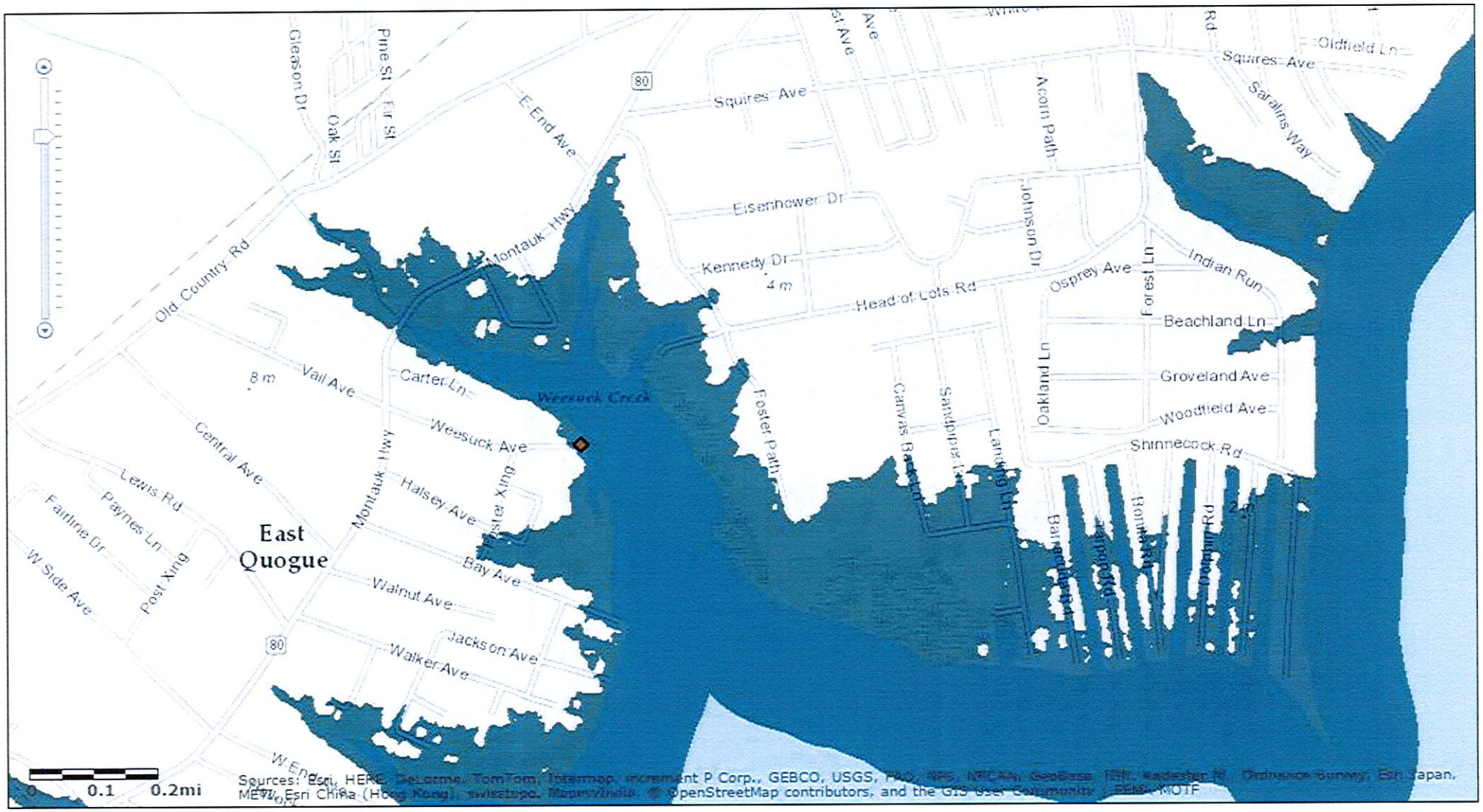
Loss of salt marsh on Long Island, since 1974



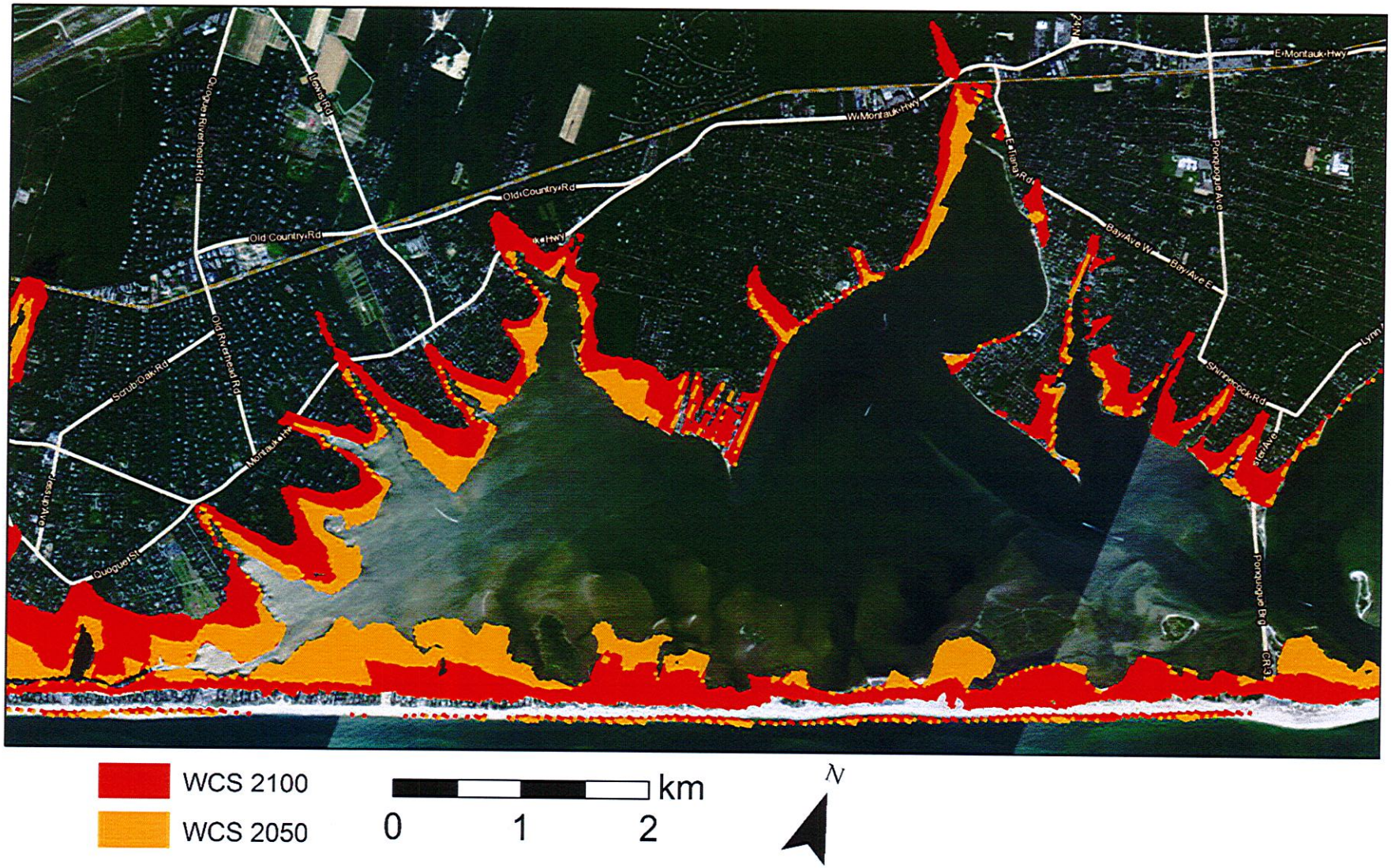
Weesuck Creek salt marshes

Wetlands lining Weesuck Creek, protecting East Quoge

Flooding of East Quogue during Hurricane Sandy, USGS



Western Shinnecock sea level rise, 2050 & 2100



Nitrogen Pollution and Adverse Impacts on Resilient Tidal Marshlands

NYS DEC Technical Briefing Summary

Published April 2014

"Given the ability of the marshes to provide **protection against coastal flooding**, NYS should consider supporting an array of programs to **reduce nitrogen loadings** into Long Island's south shore embayments."

Groundwater travel time to Weesuck Creek is **five years.**

The Law:
As of Right vs.
Reduced Impact Alternative

Jeff Bragman, PC – Bragman Law

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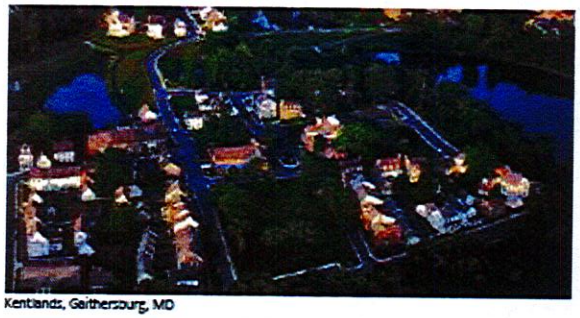
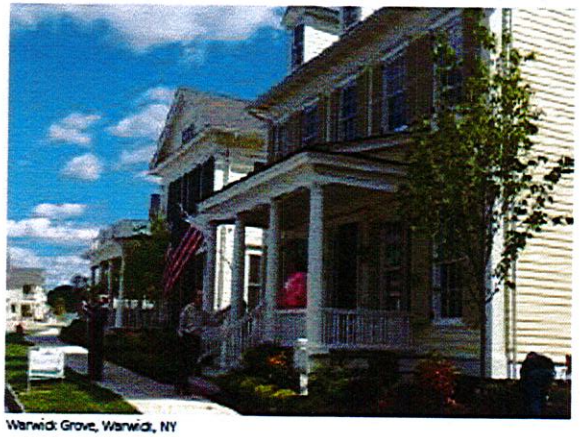
East Quogue Civic Association
Southampton Water Protection Alliance

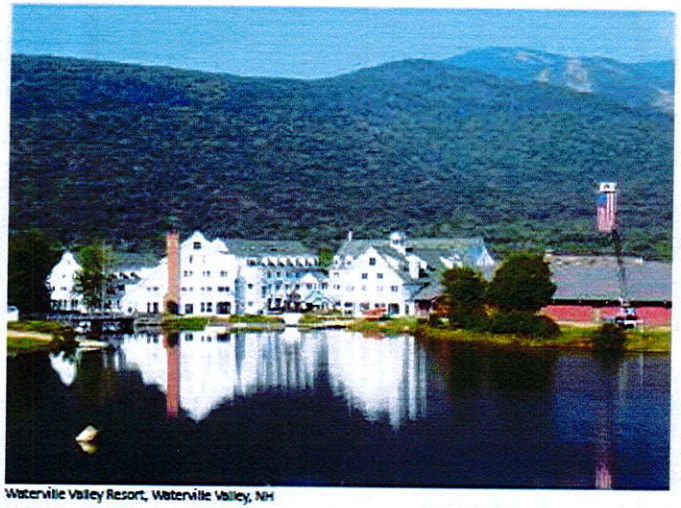
Battle Road Farm, Lincoln, MA



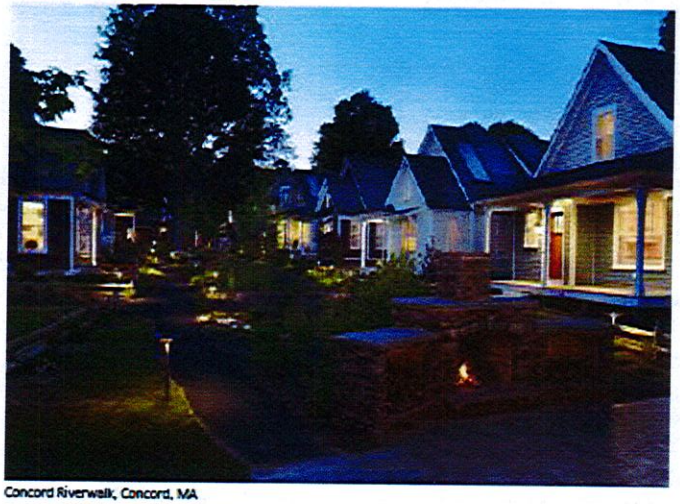
Kentlands, Gaithersburg, MD



Warwick Grove, Warwick, NY



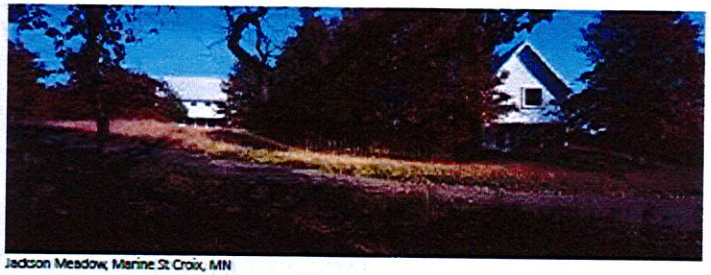
Waterville Valley Resort, Waterville Valley, NH



Concord Riverwalk, Concord, MA

East Beach, Norfolk, VA

Jackson Meadow, Marine St Croix, MN



Jackson Meadow, Marine St Croix, MN

Jackson Meadow, Marine St Croix, MN

Conceptual Reduced Impact Alternative for The Hills at Southampton PDD: Comparables
Southampton, NY

GROUP FOR THE EAST END

Prepared by: DODSON & FLINKER

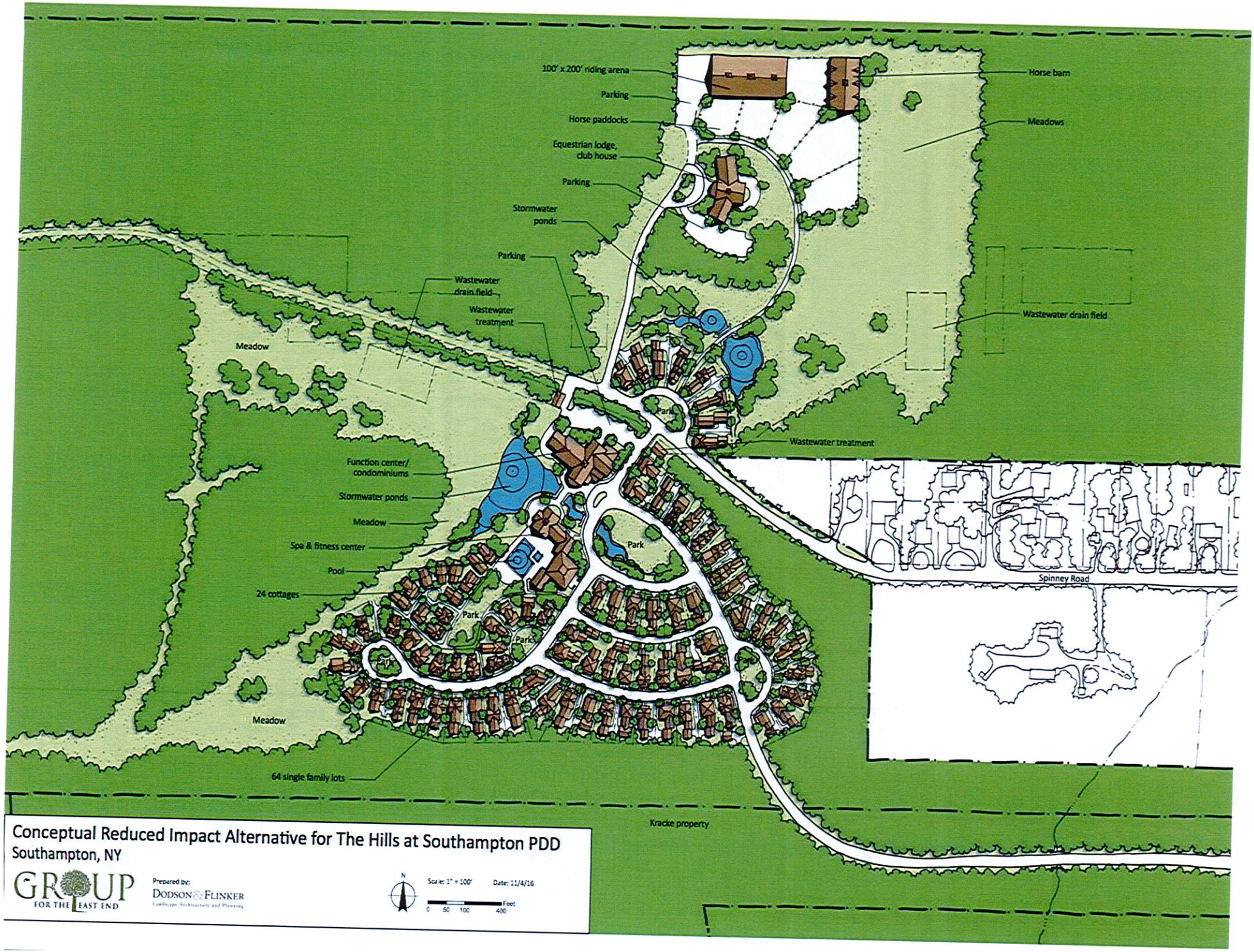
Date: 11/4/16

Comparison of Impacts: Discover Land Company PDD vs. Conceptual Reduced Impact Alternative

Impacts	Discovery PDD		Reduced Impact Alternative		Comparison: Reduced Impact Alternative vs. Discovery PDD
	Acres	% of Site	Acres	% of Site	
Site Development Total Area	166.86	28.23	23.53	4	86% less developed area
Cleared Areas	166.86	28.23	45	7.61	74% less clearing
Fertilized Turf	88.53	15%	0	0	100% less fertilized turf
Preserved Contiguous Open Space	276	48%	546	92	100% more preserved contiguous open space
Preserved Open Space incl. fragmented areas	424	72%	546	92	29% more open space incl. fragmented areas
		Units		Units	
Water Usage-	53,810,179	gallons per year	11,961,650	gallons per year	78% less water usage
Sewage Flow - bldgs. only	41,814	gallons per day	31,770	gallons per day	25% less sewage flow from buildings
Design flow including turf	65,214	gallons per day	31,770	gallons per day	51% less overall wastewater flow
Nitrogen loading					
Turf	655.1	pounds/ year	0	pounds/year	100% less nitrogen loading from turf
Sewage from buildings	Variable by computation model				72 % to 88% less nitrogen loading buildings
Residences total number	118	residences	88	residences	25% fewer residences
Total size of residences	435,800	square ft.	532,800	square ft.	22% greater combined sf of residences
Traffic wkdy PM/Sat peak	103/125	trips per hour	23/31.5	trips per hour	78% to 75% less peak hour traffic

A Better Choice

East Quogue Civic Association
Southampton Water Protection Alliance



Conceptual Reduced Impact Alternative for The Hills at Southampton PDD
Southampton, NY

GROUP FOR THE EAST END

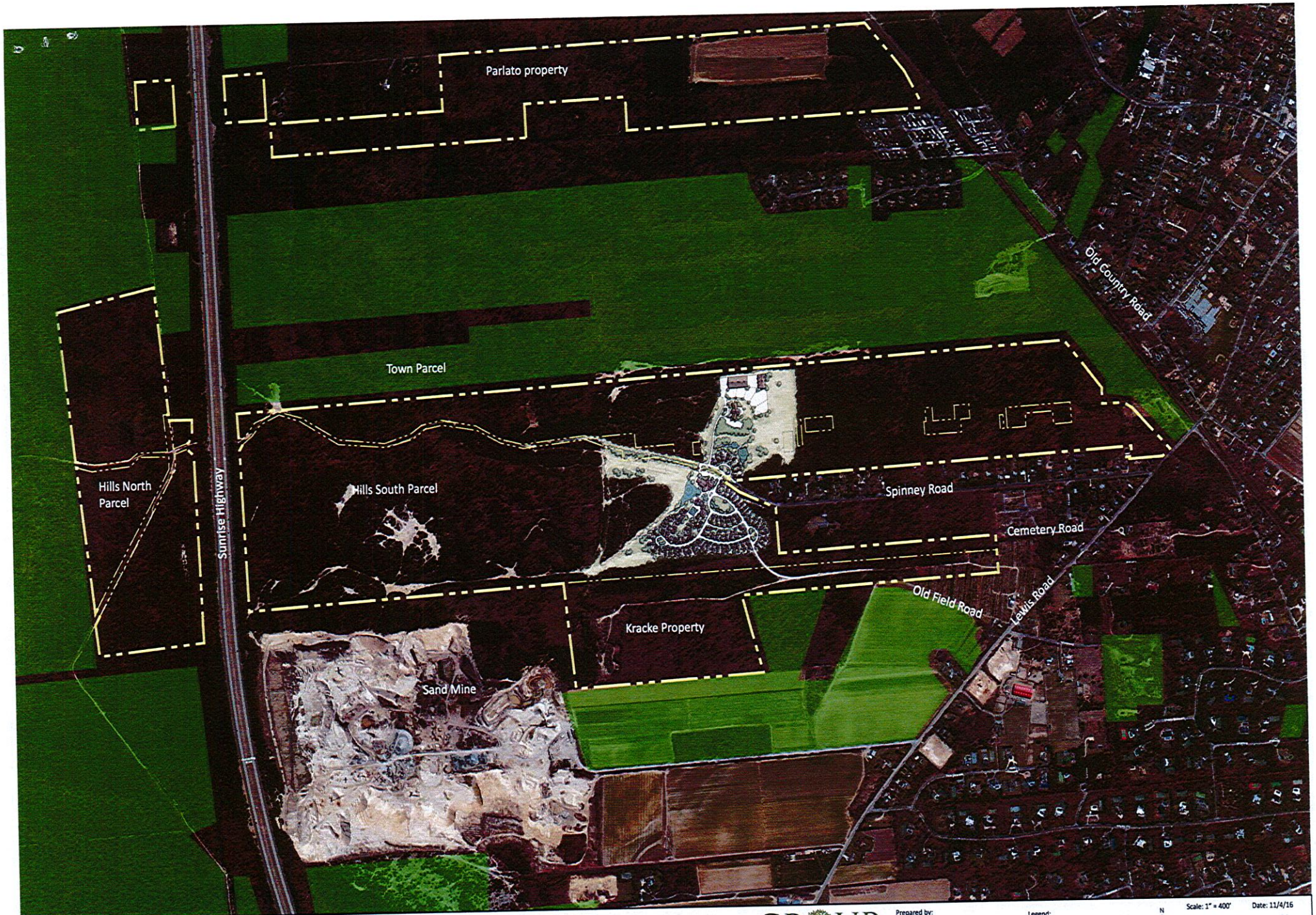
Prepared by:
DODSON & FLINKER
Landscape Architecture and Planning

N

Scale: 1" = 100'

Date: 11/4/16

0 50 100 400 Feet



Conceptual Reduced Impact Alternative for The Hills at Southampton PDD
Southampton, NY

GROUP FOR THE EAST END

Prepared by:
DODSON & FLINKER
Landscape Architecture and Planning

Legend:
Public Open Space

N

Scale: 1" = 400'
Date: 11/4/16

00 0.05 .1 0.2 Miles
0 200 400 800 Feet