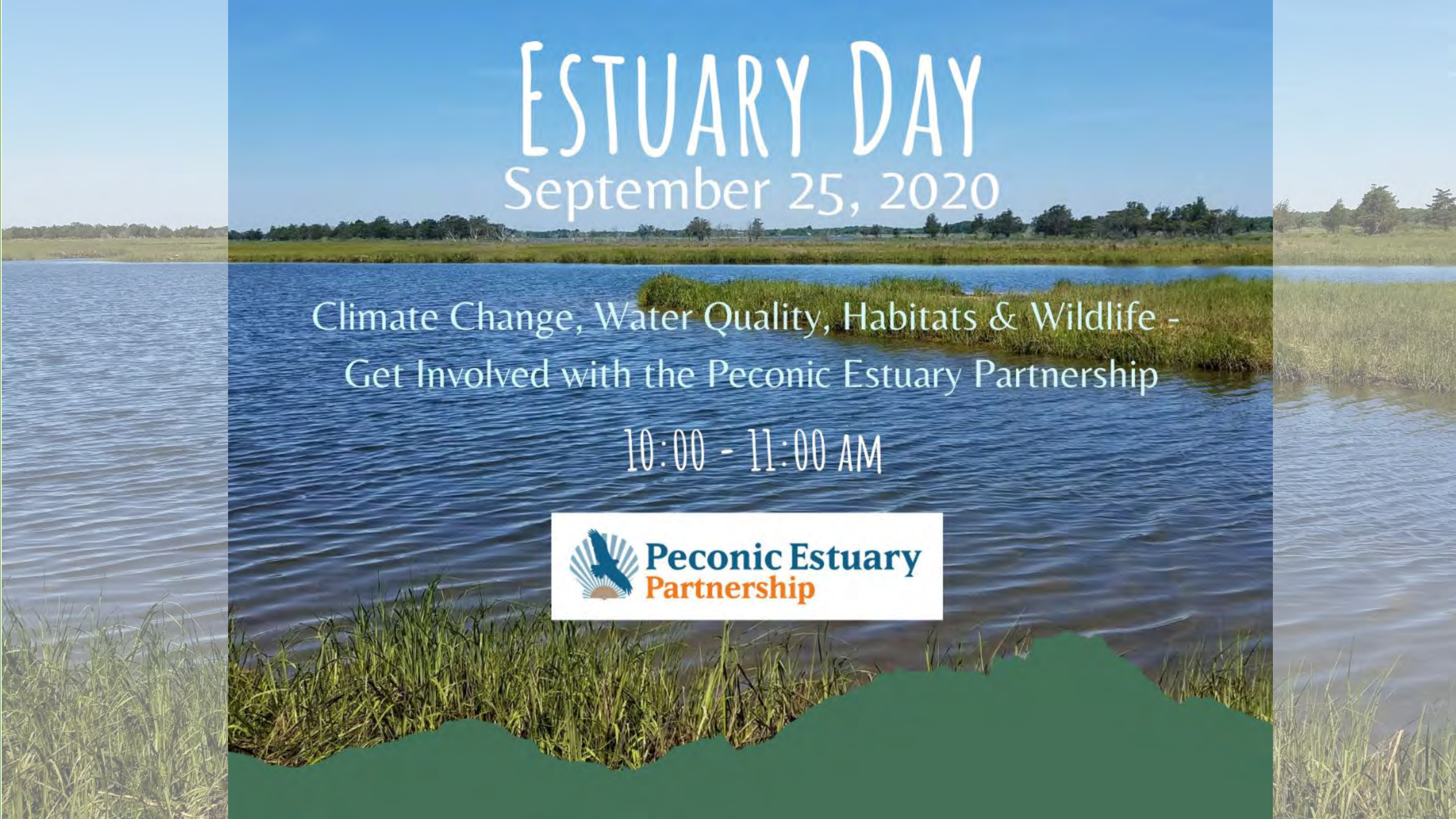

Estuary Day
September 25, 2020
Climate Change, Water Quality, Habitats & Wildlife -
Get Involved with the Peconic Estuary Partnership
10:00 - 11:00 AM
Peconic Estuary
Partnership

Peconic Estuary Partnership

Our mission is to protect and restore the Peconic Estuary and its watershed.

Water Quality | Habitat & Wildlife | Climate Change | Strong Partnerships & Engagement

"Estuary of National Significance"

Habitats & Wildlife

Healthy Ecosystem with Abundant, Diverse Wildlife

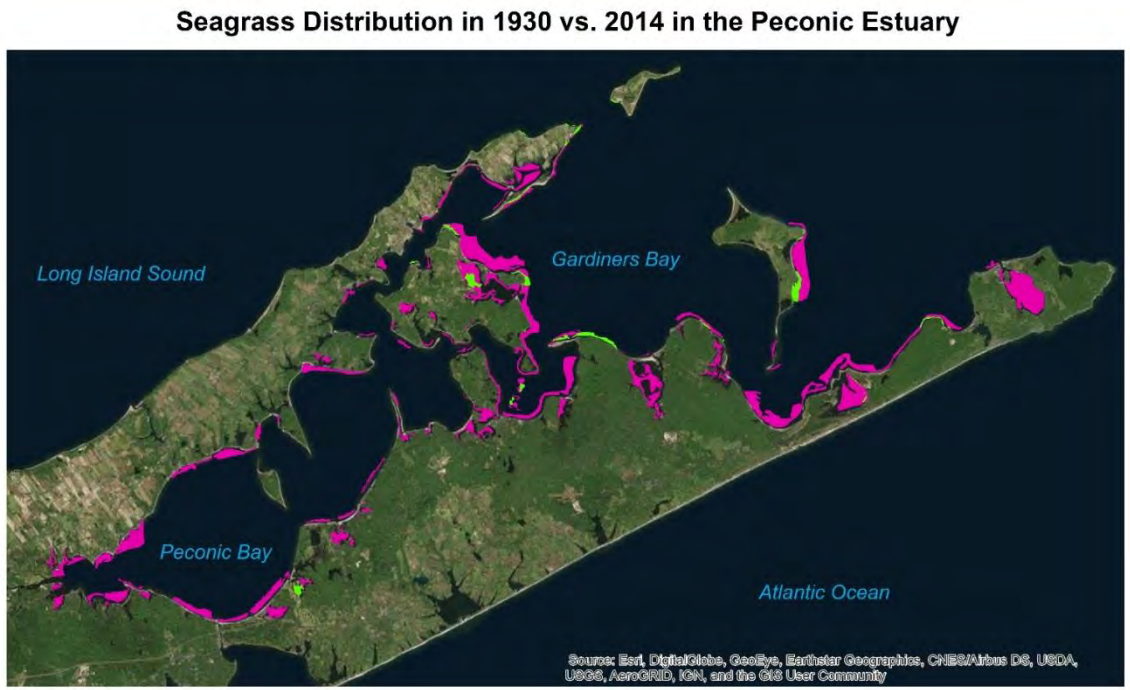
Projects for Healthy Habitats and Wildlife

The 2020 PEP Habitat Restoration Plan focuses on restoring 3 priority habitat types: Eelgrass, Wetlands, and Diadromous Fish Habitat

In Progress and Completed Habitat Restoration Projects in the Peconic Estuary Watershed

Online interactive map: https://www.peconicestuary.org/news-and-events/maps-gis/habitat-restoration/

Projects for Healthy Habitats and Wildlife: Eelgrass



- PEP Long-Term Eelgrass Monitoring Program provides valuable information on the health of eeglrass in the Estuary.
- Recently completed Eelgrass Bio-optical Model and Habitat Suitability Model provides site specific information to inform eelgrass management and restoration efforts. GIS web map tool in development.

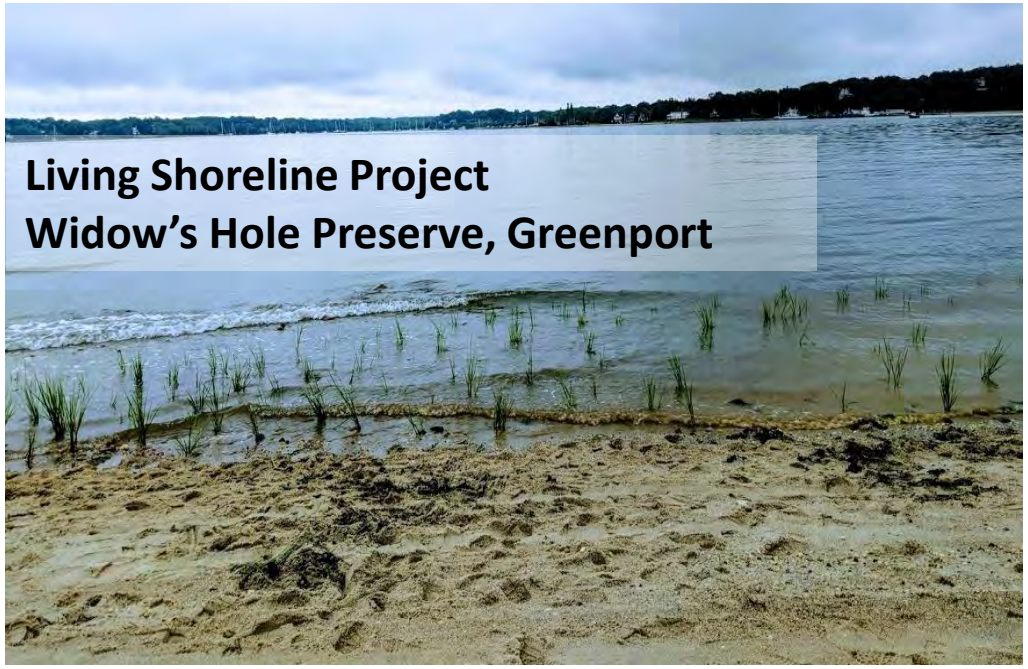
See PEP media library for video on this project

Photo by S. Tettelbach

Projects for Healthy Habitats and Wildlife: Wetlands/Shorelines

Fifty acres of marshland surrounding Narrow River in Orient, NY is choked with invasive Phragmites. PEP is working with its partners to restore tidal flow to the marsh to promote the re-establishment of native vegetation and increase important waterfowl and bird habitat.

Wetland monitoring at Indian Island County Park, where we are also working to restore degraded marsh habitat and allow for marsh migration in response to sea level rise.

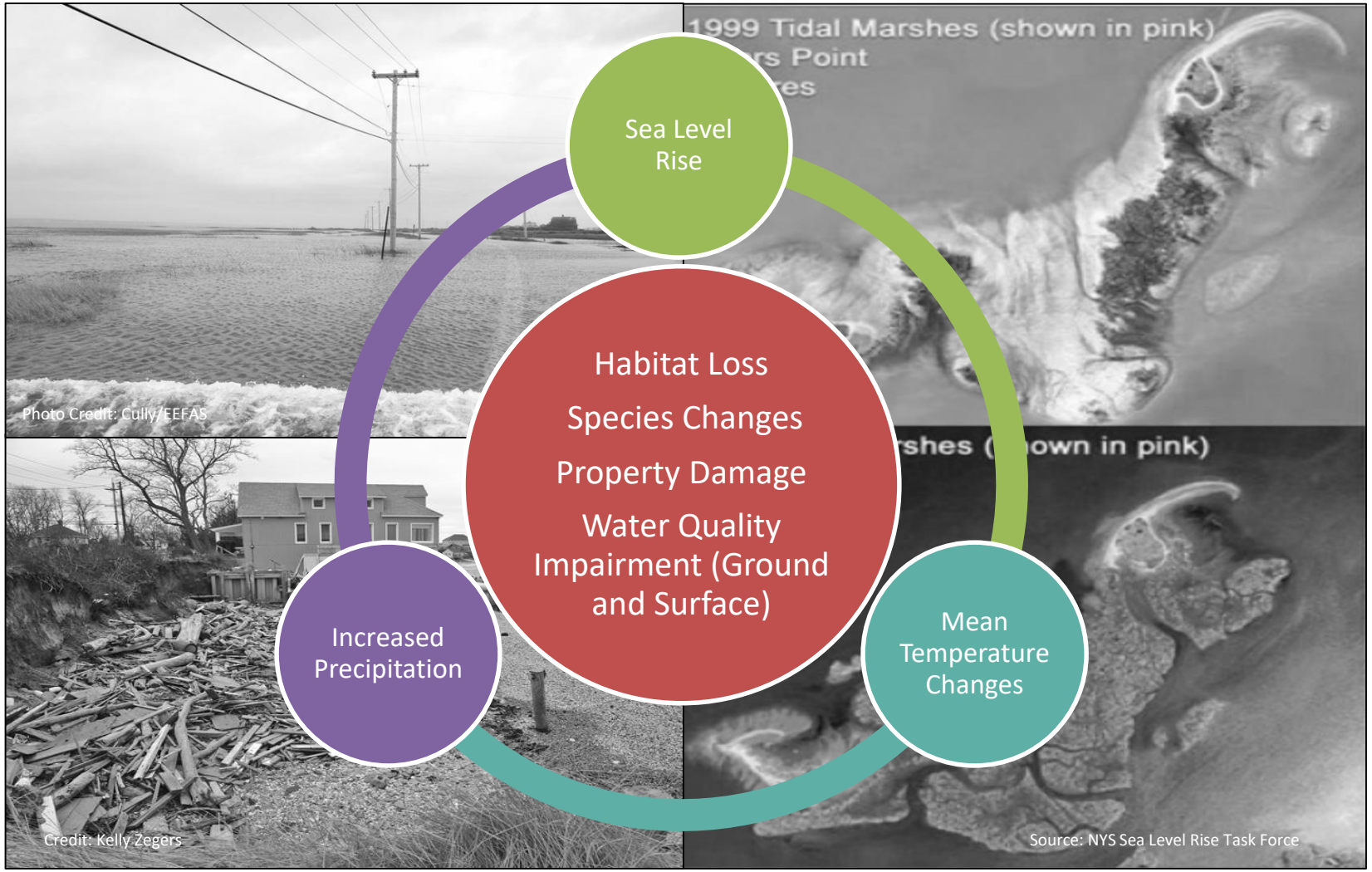


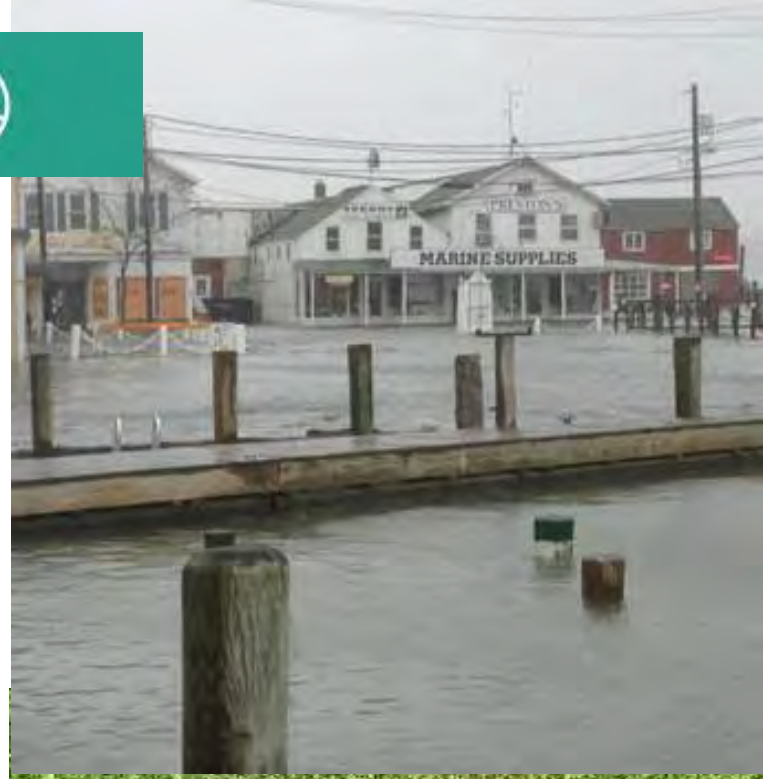
Projects for Healthy Habitats and Wildlife: Diadromous Fish

Climate Change

Resilient Communities Prepared for Climate Change

Climate Change in the Peconic Estuary Watershed





What changes can we expect?

Sea Level Rise

- Increased Tidal Elevations
- Habitat Loss
- Erosion
- Septic/Sewers

Mean Temperature Changes

- Species Changes/Loss
- Increased/Varied HABs
- Increased Storm Frequency and Intensity

Increased Precipitation

- Increased Input (Runoff)
- Erosion

Erosion

Drowning tidal wetlands

Developing Climate Based Critical Lands Protection Strategy (CLPS) Screening Criteria

New CLPS Criteria

Considerations include:

1) Parcels (developed and undeveloped) predicted to return to underwater or wetland habitat
2) Inland properties (developed and undeveloped) that could transition to shoreline positions under climate change scenarios
3) Existing living shoreline and opportunities for new living shorelines under climate change scenarios
4) Parcels where development might result in increased pressure to disrupt natural processes, including erosion
5) **Areas appropriate for inland wetland migration**

Wetlands

Lost 10.5% of marsh between 1974-2005.

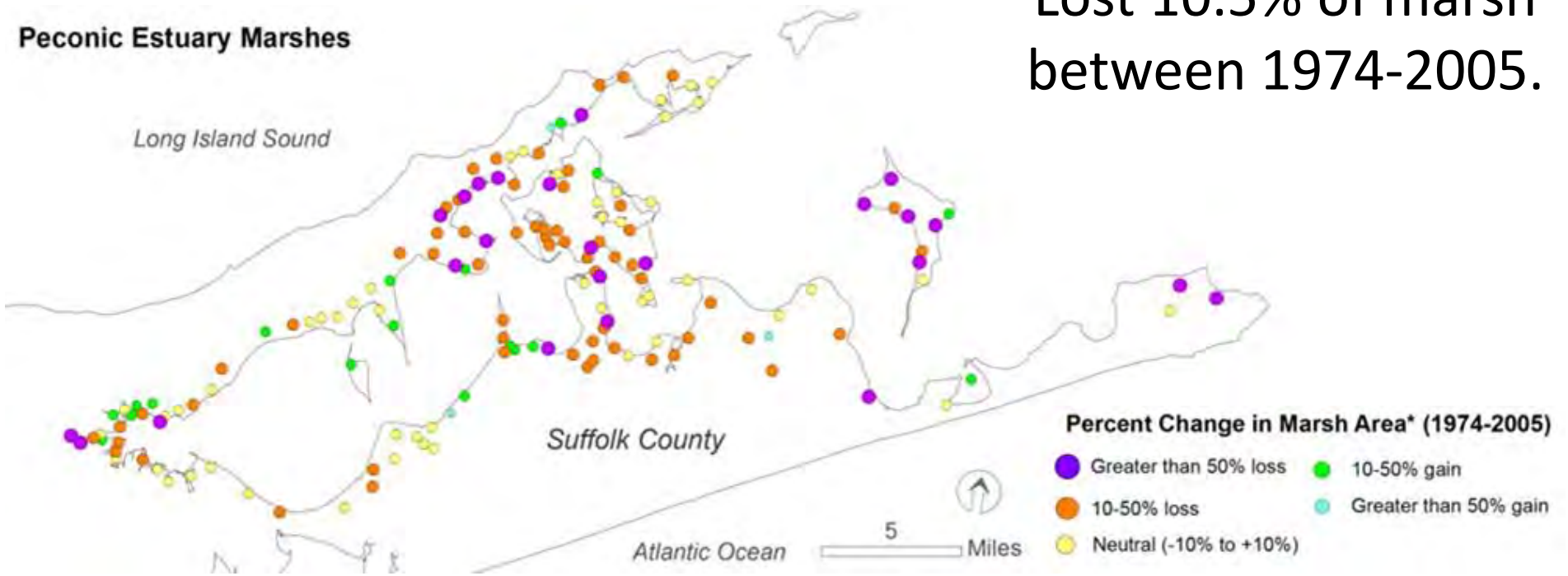


Table 1: Tidal Wetland Area Change (1974-2005) in the Peconic Estuary by Class

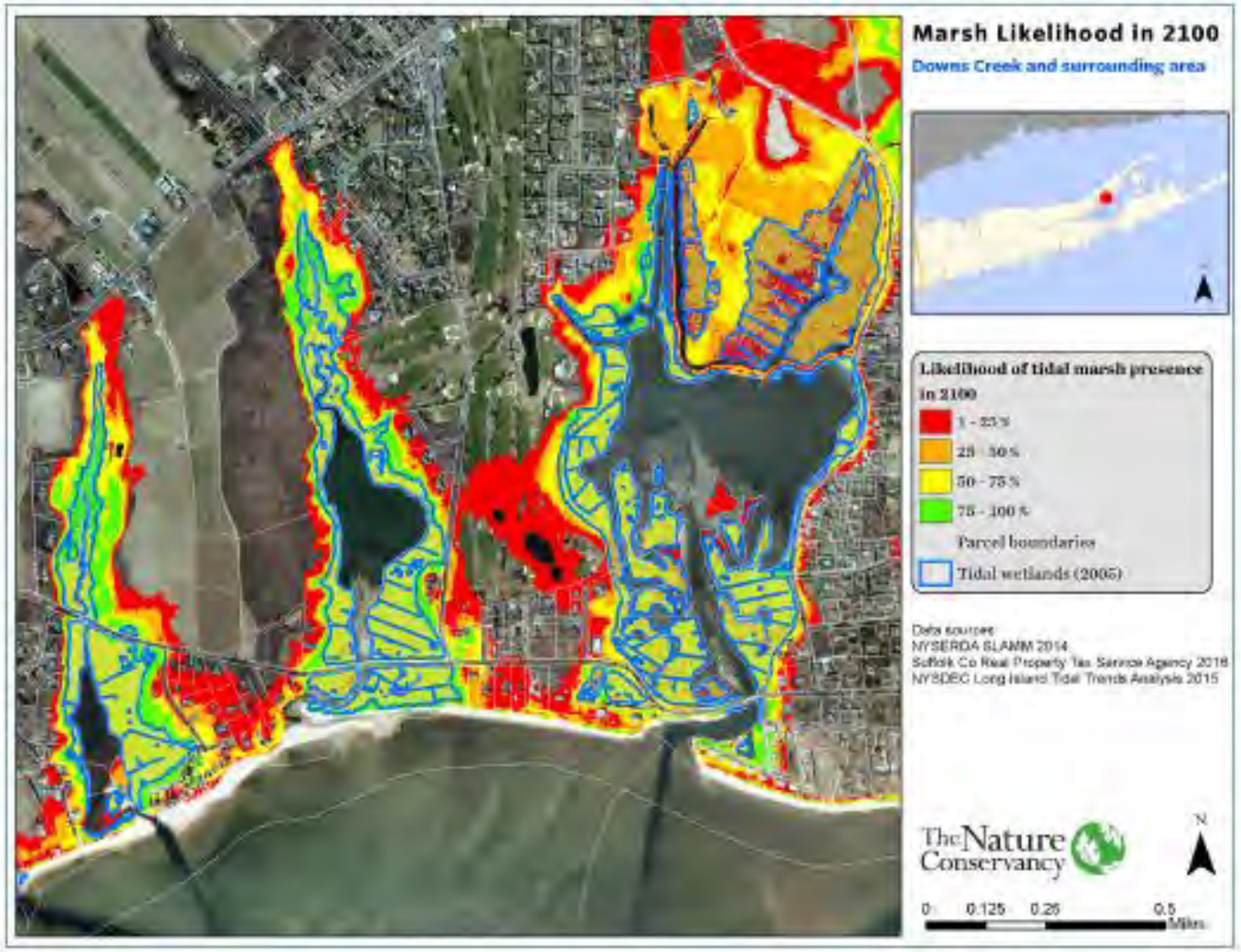
Wetland Type	1974 Wetland Area (acres)	2005 Wetland Area (acres)	Change (%)
Intertidal Marsh	1,457.1	1,652.6	13.4
High Marsh	1,865.9	1,393.8	-25.3
Coastal Fresh Marsh	117.2	31.0	-73.5
Marsh Subtotal	3,440.2	3,077.4	-10.5
Phragmites australis	304.3	573.6	88.5
Vegetated Area Total	3,744.5	3,651.0	-2.5

(Cameron Engineering & Associates, 2015)

Figure and Table 1 from Cameron Engineering & Associates, L. (2015). Long Island Tidal Wetlands Trends Analysis.

CLPS Parcels With Potential For Tidal Wetland Advancement
2050's (Decadal Average) Sea Level Rise Projection

Map inundation related to climate change and wetland migration



PEP Works with partners to achieve regional responses to Climate Change

New York State Ocean Acidification Taskforce
Suffolk County Coastal Erosion and Sea Level Rise Taskforce
East End Town CLPS Training and Data Sharing – together we can do this!
Association of National Estuary Programs – national synthesis
Living Shoreline Projects – good for habitat and good for resiliency!
National Atmospheric Deposition Program – 17 years and going strong!

Water Quality

Clean Waters for Ecosystem Health and Safe Recreation

Projects for Clean Waters: LINAP

Collaborate with the Long Island Nitrogen Action Plan (LINAP)

LINAP is a multiyear initiative to reduce nitrogen in Long Island's surface and ground waters by the NYSDEC, the Long Island Regional Planning Council (LIRPC), and Suffolk and Nassau counties, with input from multiple partners and stakeholders.

- Assess nitrogen pollution in Long Island waters,
- Identify sources of nitrogen to surface waters and groundwater,
- Establish nitrogen reduction endpoints (ecological endpoints are desirable conditions in surface waters),
- Develop an implementation plan to achieve reductions.

Photo Credit: SCDHS- Robert Waters

Photo Credit: USEPA

Projects for Clean Waters: Wastewater Pollution

Promote and encourage participation in Suffolk County and Town septic upgrade programs

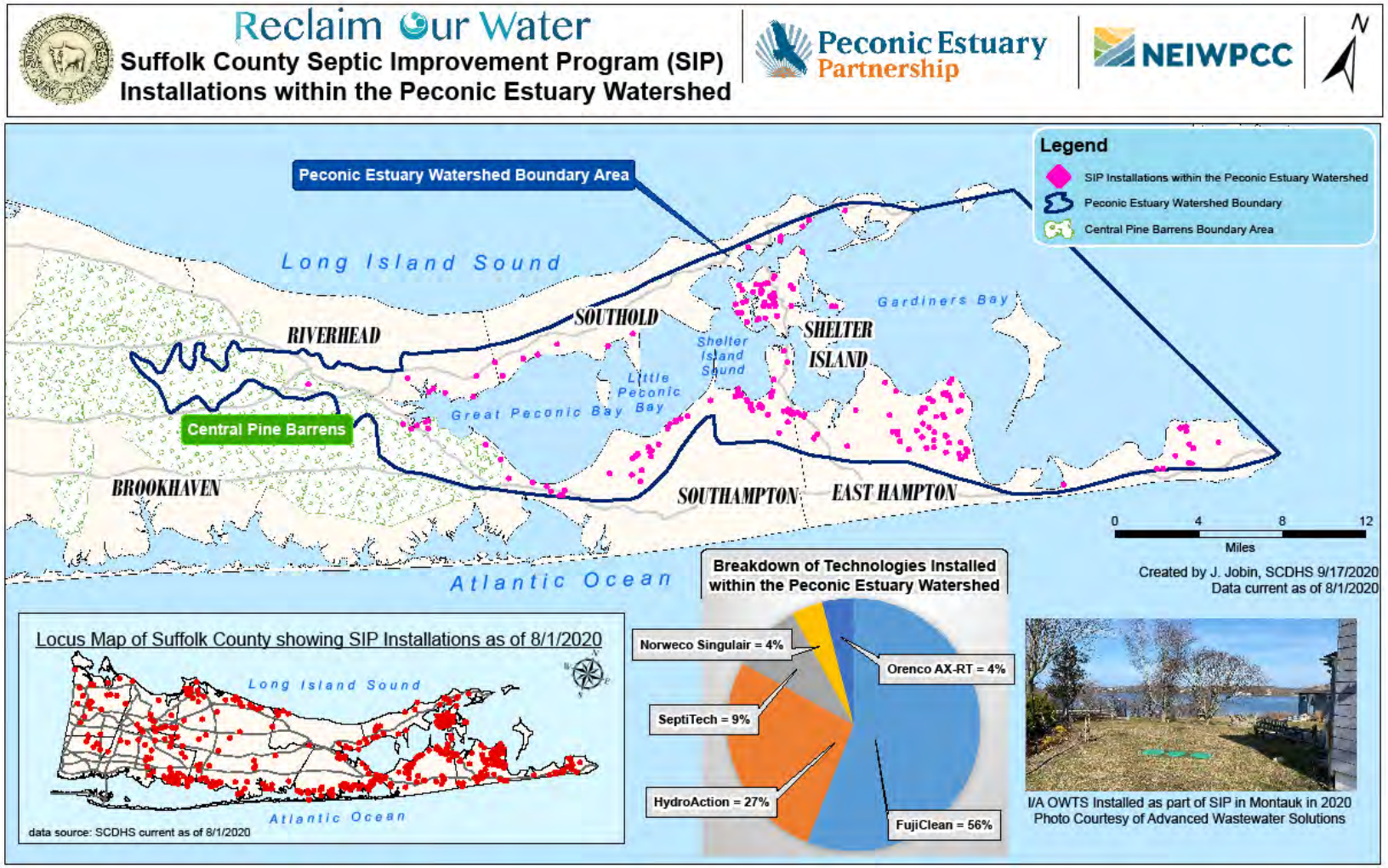
- The Suffolk County Reclaim Our Water Initiative offers the Septic Improvement Grant and Loan Program to incentivize the replacement of waste treatment systems that do not adequately reduce nitrogen pollution, such as septic systems and cesspools, with innovative/alternative onsite wastewater treatment systems (I/A OWTS). The following Towns are offering additional funding: East Hampton Septic Incentive Program, Southampton I/A OWTS Rebate Program, Shelter Island Innovative Advanced/ Onsite Wastewater Treatment System Rebate Program

Photo Credit: PEP

Cesspool- ineffective method of treating wastewater.

Photo Credit: PEP

I/A OWTS installation at a home in the Peconic Estuary watershed.



- **201** of 522 I/A OWTS were installed in the Peconic Estuary Watershed with funding from the Suffolk County Septic Improvement Program.
- **39%** of all SIP installations occured in the Peconic Estuary Watershed.
- Approximately **4,522.5 lbs of nitrogen** are removed annually due to these installations.

Projects for Clean Waters: Stormwater & Fertilizer Pollution

Havens Beach Rain Gardens

- Two rain gardens completed in June at Havens Beach in the Village of Sag Harbor

Photo Credit: Cassandra Castano, Nelson Pope and Voorhis

PEP Homeowner Rewards Program

- The Homeowner Rewards Program - 74 projects have been completed to date, with 10 more to be completed by November

Photo Credit: Elizabeth Lattanzio

Photo Credit: Mare Dianora

Projects for Clean Waters: Pathogen, Toxic, & Plastic Pollution

Pathogen pollution

Establishment and participation in the Intermunicipal Agreement or the Peconic Estuary Protection Committee

Stormwater Management Plans

Assist Towns and Villages in implementing stormwater/pathogen management projects using the 12 existing plans.

Toxic and Plastic pollution

- Coastal Cleanups
- Promotion of Stop Throwing Out Pollutant (STOP) Days
- Monofilament Fishing Line Collection and Recycling

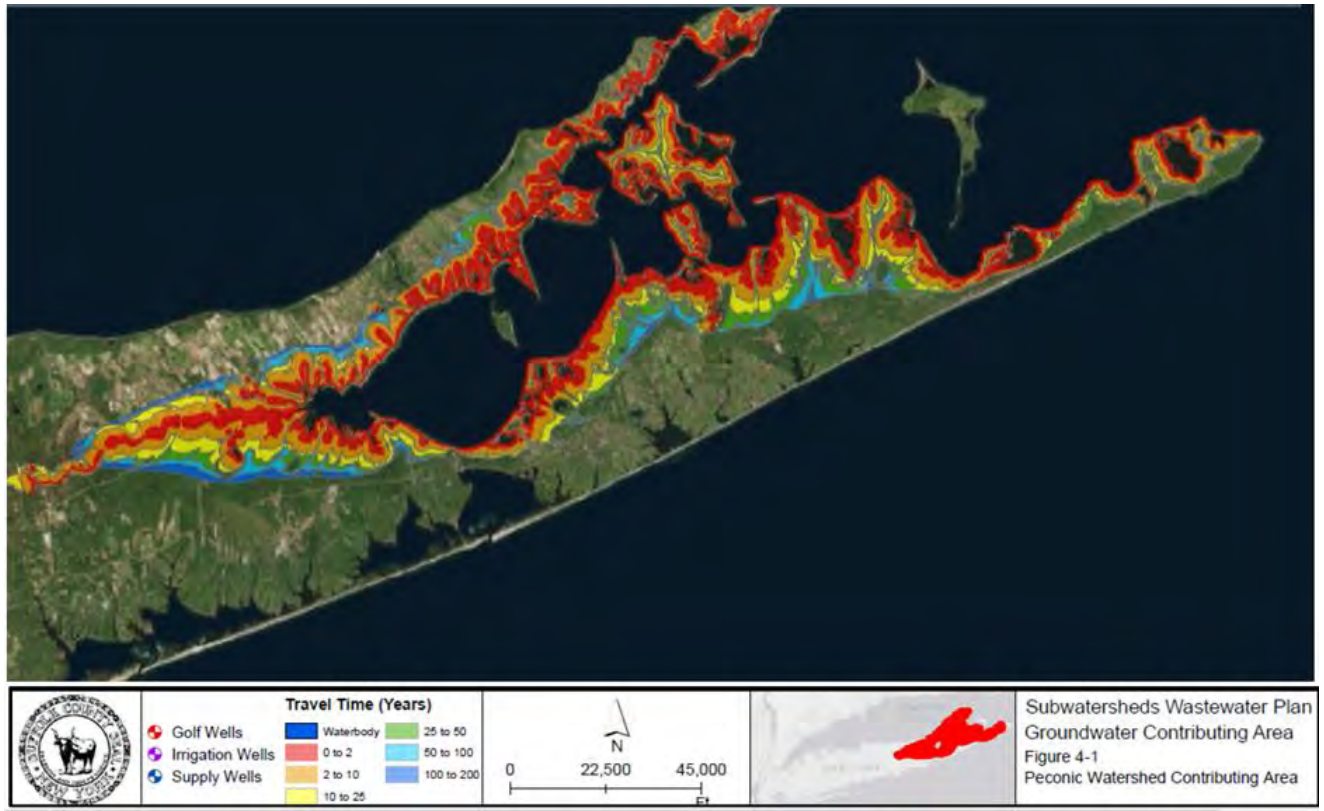
Projects for Clean Waters: Understanding how to reduce pollution

Nitrogen Load Reduction Assessment Project

- Will provide a cost-benefit analysis for nitrogen reduction techniques and technologies to inform the most effective implementation

Peconic Estuary Nitrogen Solute Transport Model

- Will provide a model to understand what actions on land might have on the amount of nitrogen in groundwater and surface water over time.

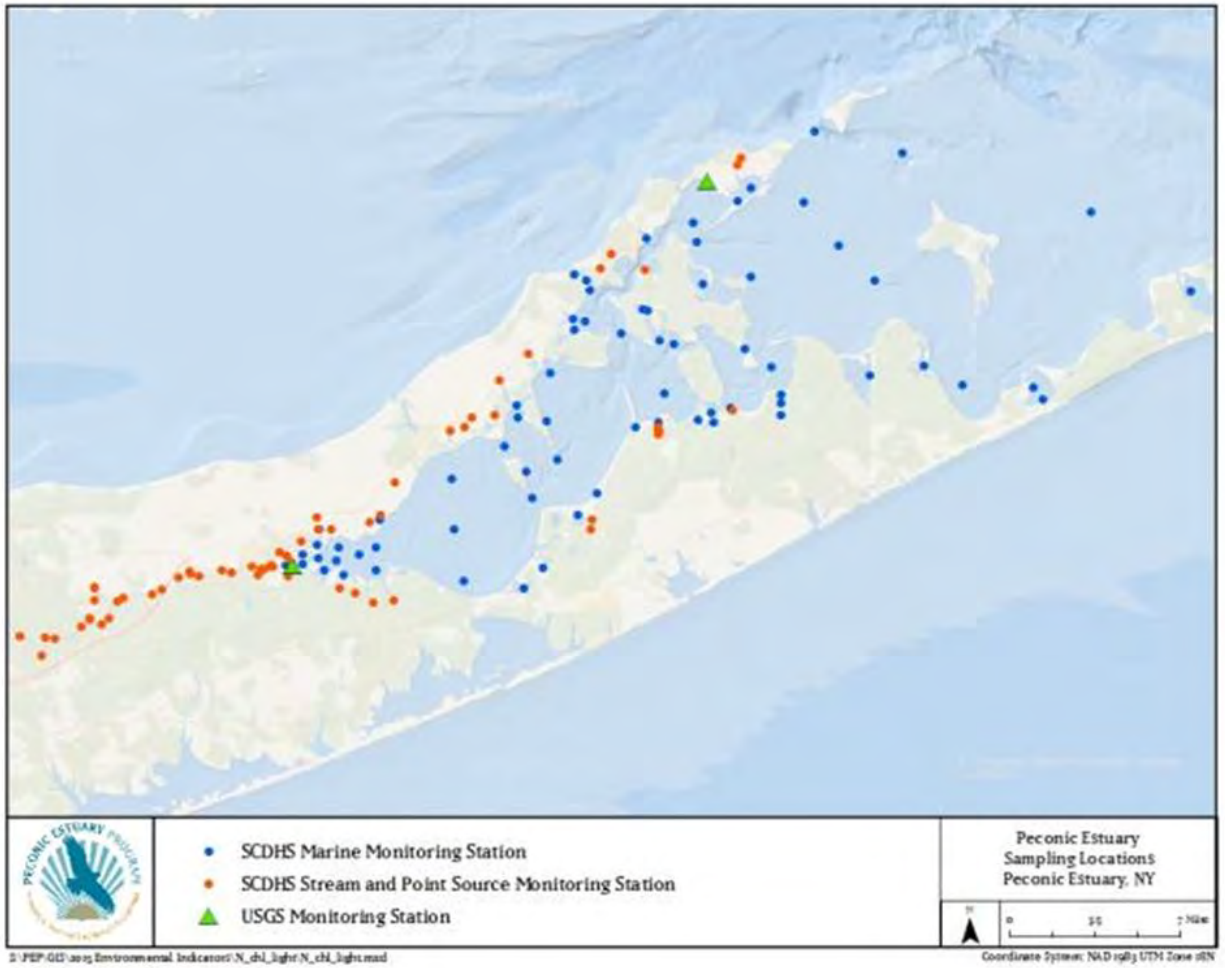


This figure shows the land area that contributes groundwater to the Peconic Estuary, and the amount of time it takes for this groundwater to reach the estuary.

Credit: Suffolk County Subwatersheds Wastewater Plan

Projects for Clean Waters: Monitoring the health of the water

- **Suffolk County Surface Water and Groundwater**: Estuary-wide
- **United States Geological Survey Continuous WQ Monitoring Stations**: Orient Harbor and Riverhead
- **Harmful Algal Bloom monitoring** – Suffolk County, NYSDEC, and Stony Brook University: Estuary-wide
- See this link for more info on monitoring programs.

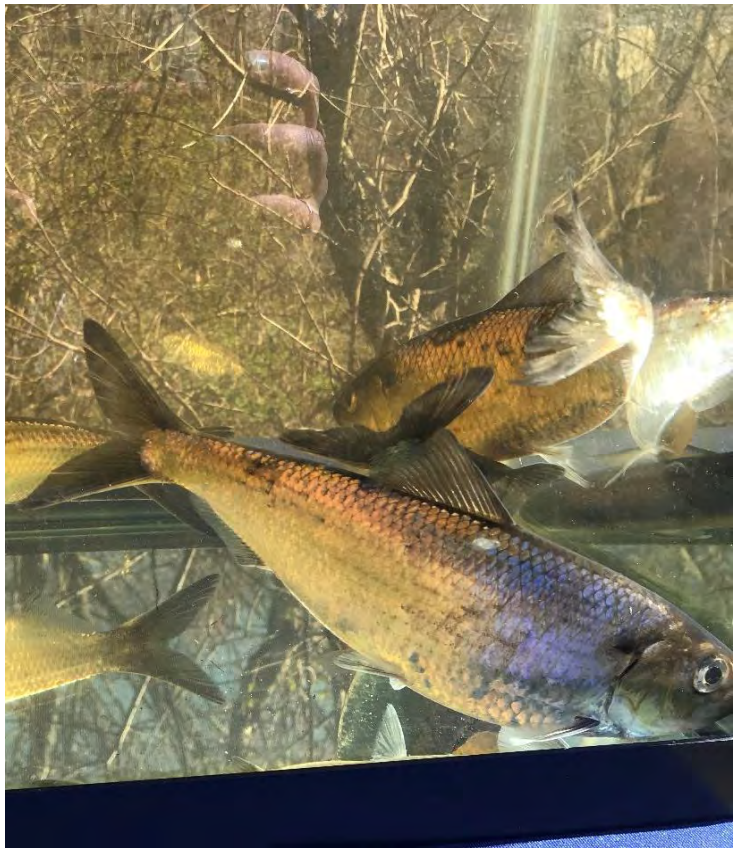


What YOU can do!

Strong Partnerships and Engagement

Join Citizen Science Programs on Long Island

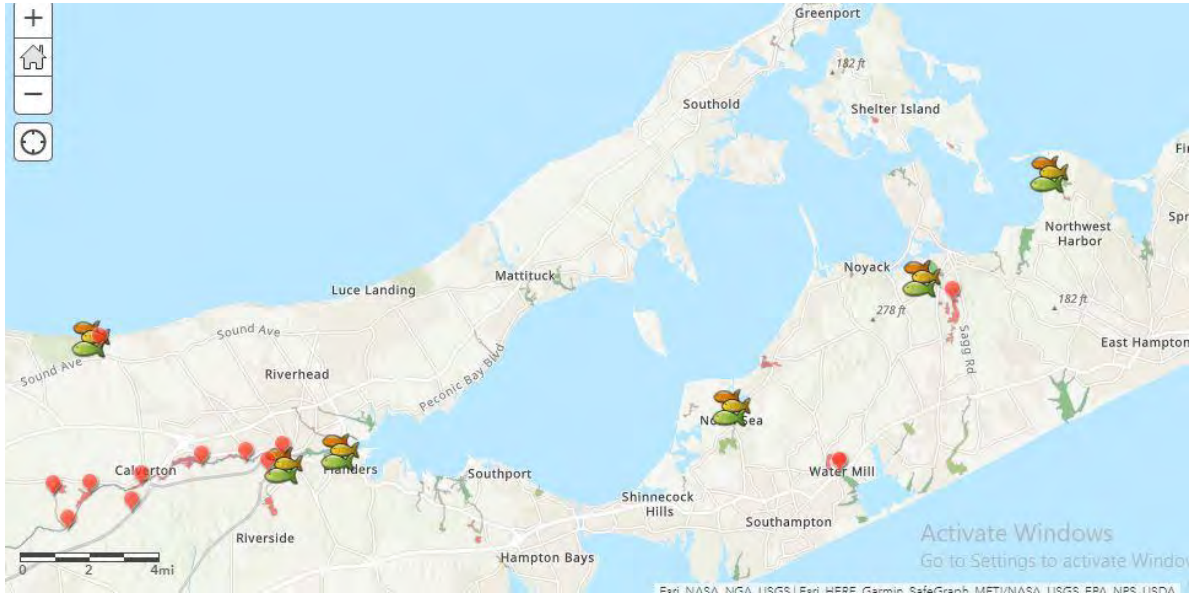
Alewife

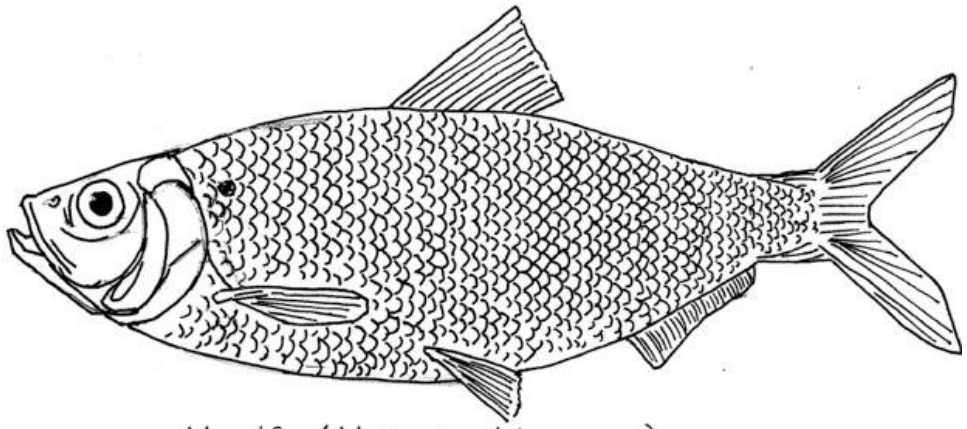


Horseshoe Crab

Diamondback Terrapin

River Herring Survey - Citizen Science





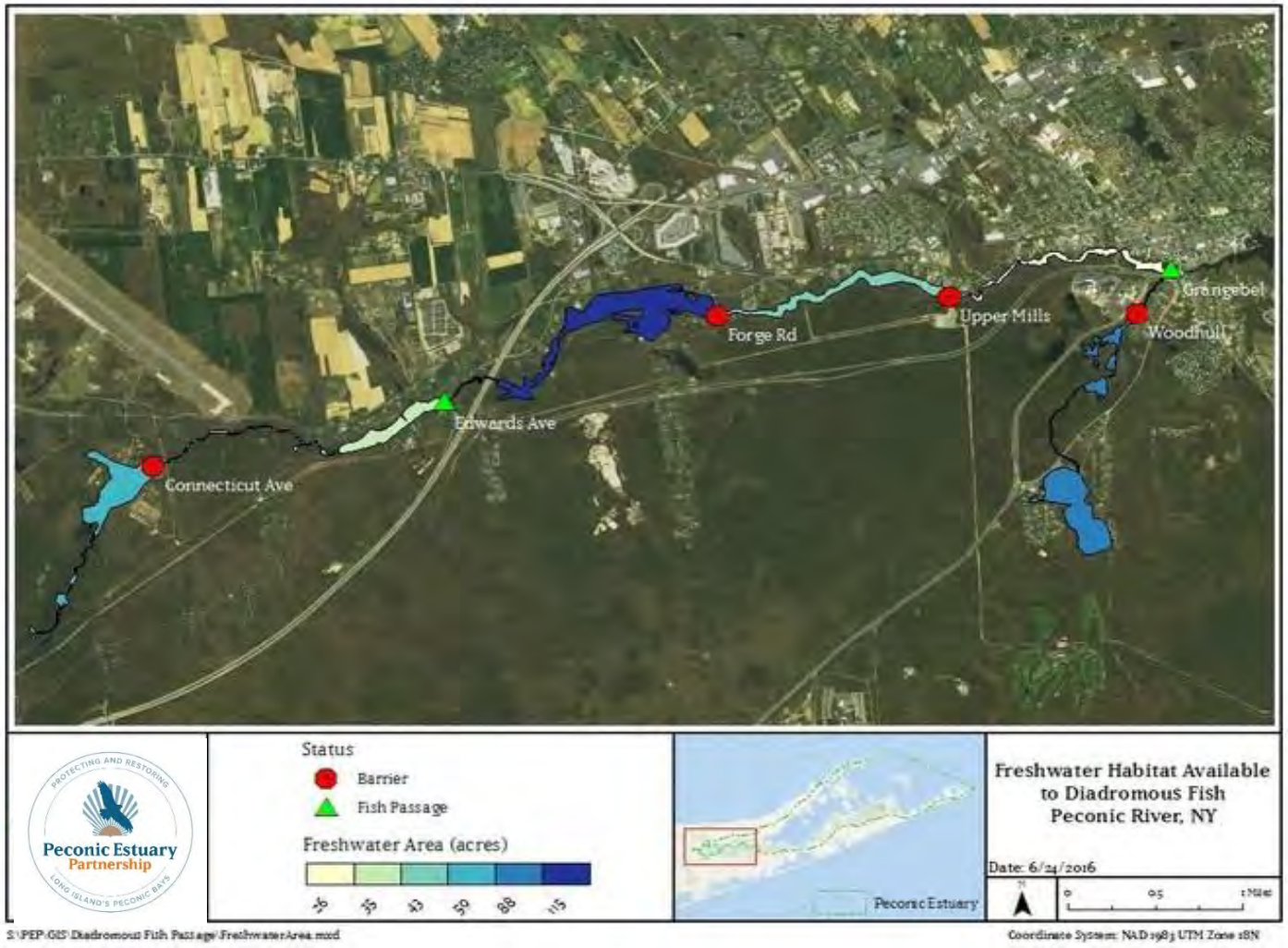
-Early Spring: February –May
-Training Workshops
-Online survey to collect data
-Participate on your own time

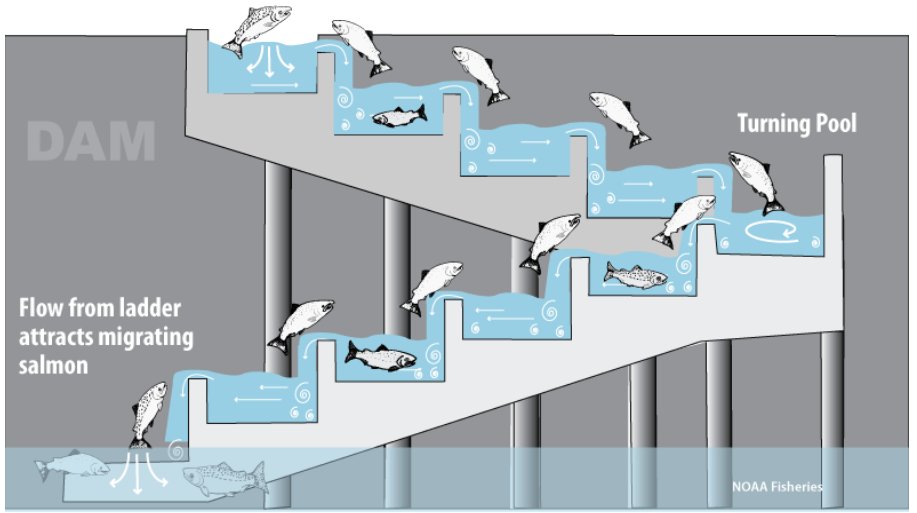
Help us identify Alewife Spawning Grounds in the Peconic

Two major Alewife Spawning Runs in the Peconic watershed:

- Alewife Creek
- Peconic River

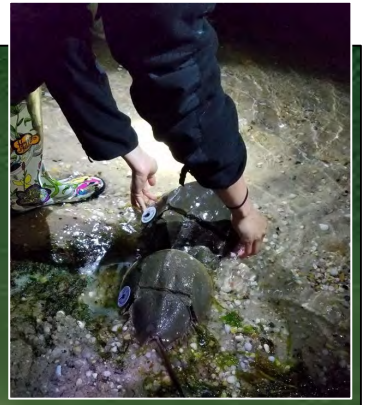
Your data can encourage fish passage projects





The more we know –
the more we can help!

Horseshoe Crab Survey - Citizen Science



NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

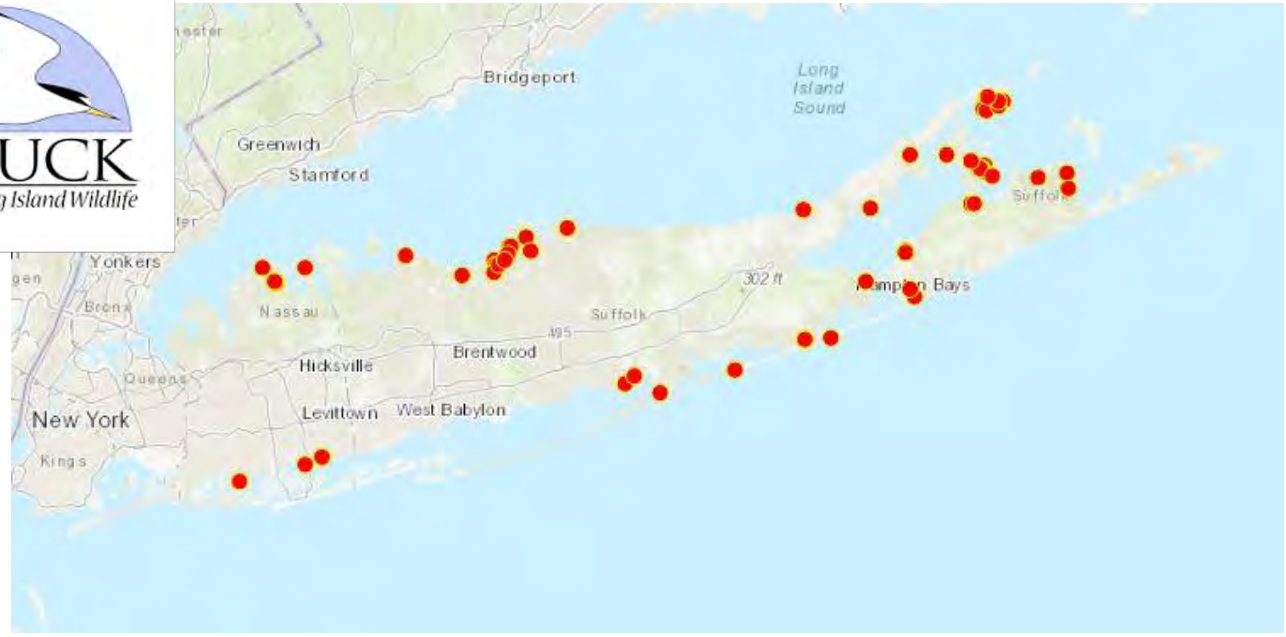
CORNELL UNIVERSITY FOUNDED A.D. 1865

-Spring/Summer: May-June
-Go to scheduled time at specific site to help scientists collect data

Diamondback Terrapin Survey - Citizen Science

Diamondback Terrapin Watch

SEATUCK
Conserving Long Island Wildlife



-Spring/Summer: Late May-August
-Training Workshop on PEP Vimeo site
-Online survey to collect data
-Participate on your own time

Peconic Estuary Partnership
PROTECTING AND RESTORING
LONG ISLAND'S PECONIC BAYS

SEATUCK
Conserving Long Island Wildlife

JAMAICA BAY
TERRAPIN RESEARCH

HOFSTRA UNIVERSITY

Survey areas of salt marsh for terrapin activity to determine where their nesting habitat is located.

Tracks
Distinct tracks left by a turtle dragging her shell along the sand.

Test Nest
A hole left by a female when she chooses to nest elsewhere.

Predated Nest
Shriveled white eggshells & predator tracks make this an easy find.

Coming soon! Wildlife Monitoring Network Website


Photo: Kaitlin Morris


Photo: Kaitlin Morris


Photo: Barry Udelson


Photo: Mike Bottini

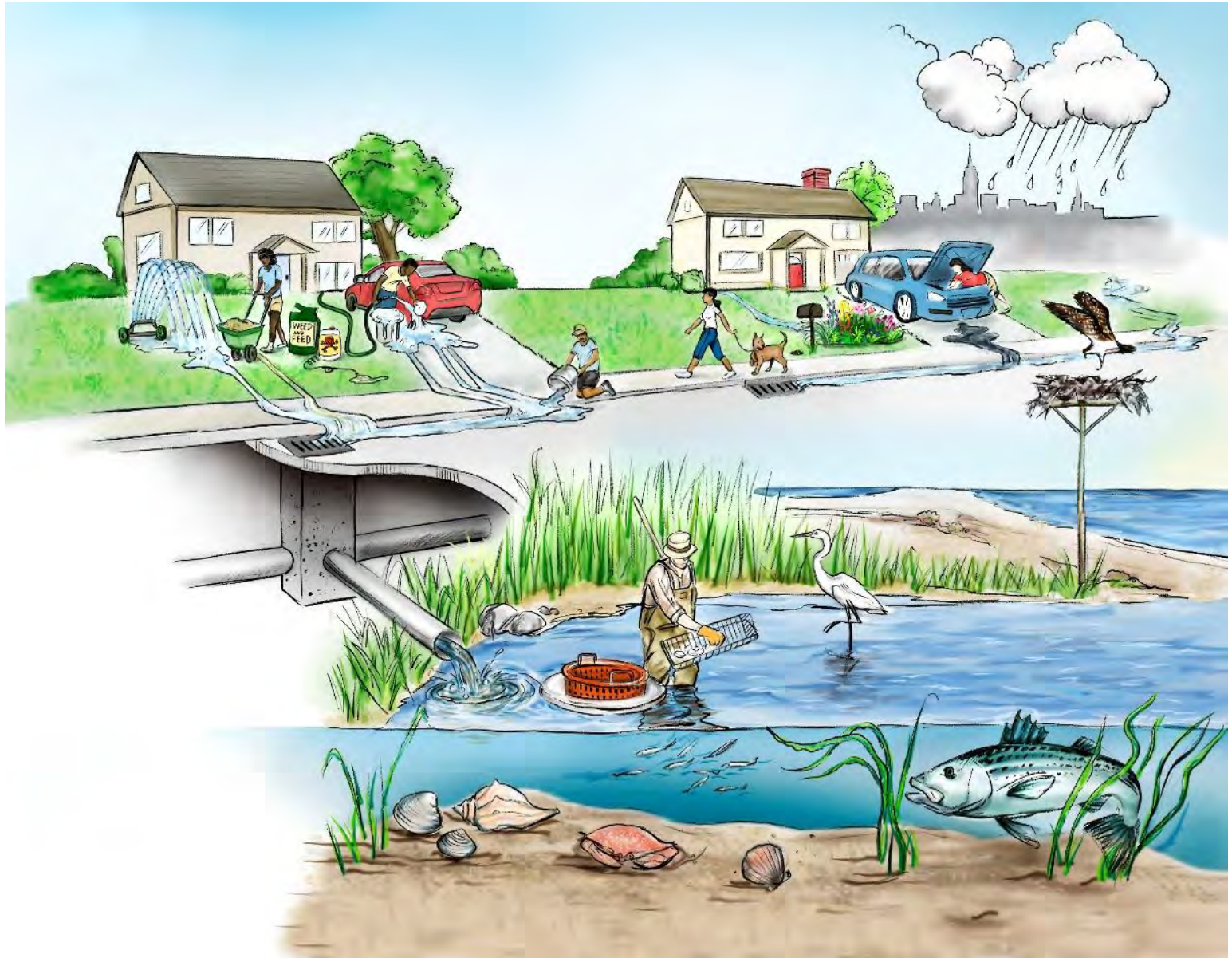

Photo: Jenna Schwerzmann

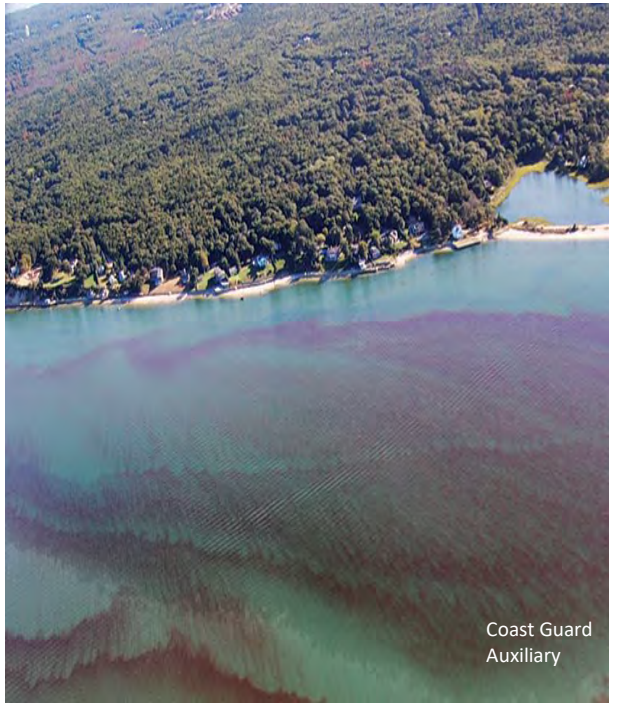
Choose Living Shorelines in the face of Climate Change impacts

Daily changes can help reduce your carbon footprint

Climate Change is impacting the Peconic Estuary. Additional greenhouse gas emissions from the burning of fossil fuels create a thicker blanket of warmth around our planet. As a result, lands and oceans around the world are getting a taste of a new reality. The Peconic Estuary is no different - increasing water temperatures, changes in precipitation patterns, sea level rise, and ocean acidification are top impacts for our home base. We have control over what we do in our daily lives and the choices we make. Carpooling, riding your bike, getting an eco-friendly vehicle for your next car, choosing alternative sources of energy like solar, turning off your lights, and planting trees are all ways you can reduce your carbon footprint! As climate change is upon us, it is good to be aware of what our present and future will look like so we can adapt, mitigate, and plan for a healthier and resilient tomorrow.

What we do on land impacts our waters





Upgrade your cesspool or septic system to an I/A system that treats nitrogen.

SUFFOLK COUNTY'S
SEPTIC IMPROVEMENT PROGRAM (SIP)

August 25, 2020

WWW.RECLAIMOURWATER.INFO

PROVISIONALLY APPROVED I/A OWTS

Amount Based on Wastewater Permit Applications Submitted as of 6/1/2020

TOTAL APPLICATIONS = 1,988

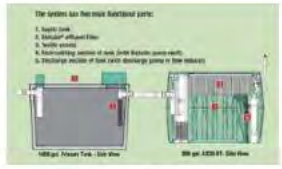
Hydro-Action - 649

Fuji Clean System - 859

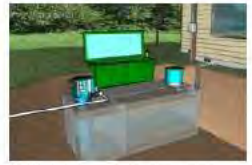
Norweco Singulair TNT - 328

Norweco Hydrokinetic - 7

SeptiTech STAAR- 101



Orenco Advantex AX-RT - 35



Orenco Advantex AX-20 - 7

Ecoflo Coco Filter + Denite - 2

PEP/Suffolk County Septic Improvement Program Workshop video on PEP's Vimeo

Homeowner Rewards Program

Rain Garden

Native Plant Garden

Rain Barrel

Homeowners in the Peconic Estuary Watershed can apply to earn up to **$500** to offset the expense of installing rain barrels, rain gardens and native plant gardens.

- Homeowner Rewards Program Application – Online or Email
- Gardens (native plants only!) need to be minimum of 50 square feet total to meet reimbursement requirement.
- Rain barrels - minimum of 50 gallons, maximum of $100/barrel

Reduce Nitrogen Pledge - LINAP

Reduce Nitrogen Pledge

Long Island Regional Planning Council
Leadership on Regional Issues

TAKE THE PLEDGE: COMMIT TO PERSONAL STEPS TO REDUCE NITROGEN POLLUTION

Peconic Estuary Partnership

Nitrogen pollution is a leading cause of water quality impairment on Long Island.

Small steps can lead to big changes and there are plenty of actions we can take to reduce nitrogen in our waterways. Take this straightforward pledge and create a cleaner future for our most precious resource.

Take The Pledge Now!

10 Things You Can Do to Reduce Personal Nitrogen Pollution

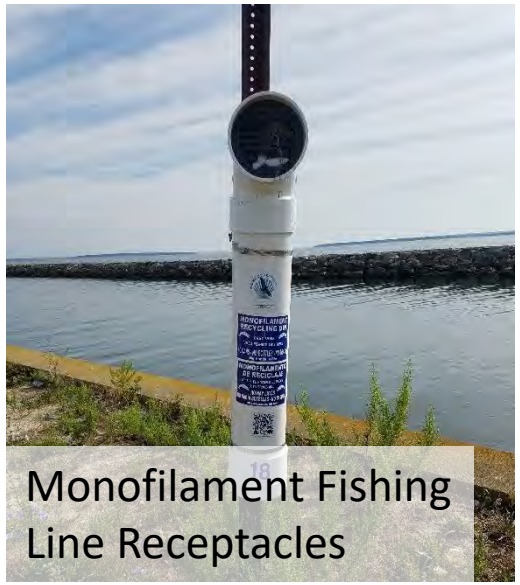
- ☐ Be smart – fertilize your lawn responsibly.
- ☐ Keep grass clippings on the lawn and bag your leaves.
- ☐ Sweep it up.
- ☐ Replace your outdated septic system or cesspool.
- ☐ Direct downspouts into plant beds (rather than down the driveway).
- ☐ Plant trees and other native plants.
- ☐ Leave a wide strip of deep-rooted plants along the shoreline.
- ☐ Pick up pet waste and reduce "poo-lution" (even in your own backyard).
- ☐ Drive less.
- ☐ Use a commercial car wash rather than washing your vehicle at home.
- ☐ Spread the word!

Peconic Stewardship


Peconic Friendly Boating


Leave No Trace


Reuse, Upcycle


Monofilament Fishing Line Receptacles


Educate


Join the PEP Citizens' Advisory Committee

Peconic Estuary Partnership

Contact Information:

Website: PeconicEstuary.org
Email: PEPTalk@peconicestuary.org

Social Media:

Estuary Day

September 25, 2020

Long Island is home to three Estuary Programs that work to protect and restore our natural resources and treasured ecosystems. YOU CAN GET INVOLVED in our efforts to create a cleaner and more vibrant future. Learn how by attending one, two or all three of our virtual presentations and Q&A sessions this Estuary Day.

*FREE ZOOM REGISTRATIONS TO ATTEND!

10:00 - 11:00 AM Peconic Estuary Partnership

Climate Change, Water Quality, Habitats & Wildlife - Get Involved with the Peconic Estuary Partnership

Register for this presentation: https://cornell.zoom.us/meeting/register/tJwtcO2tqjotHdTTT4s0n0mGRO8qYcjyPlgF

12:00 - 1:00 PM Long Island Sound Study

Discover Long Island Sound: A virtual tour of local treasures to explore

Register for this presentation: https://cornell.zoom.us/meeting/register/tJYlcOyhqTgtGNH6RTdnloa1DdVdjrmz2jdP

2:00 - 3:00 PM South Shore Estuary Reserve

Protecting and Restoring the South Shore Estuary Reserve

Register for this presentation: https://cornell.zoom.us/meeting/register/tJ0ofu-urjwjHdbeFQM3QrMfmOxxm6rabcg7

Peconic Estuary Partnership

Long Island Sound Study

NEW YORK STATE OF OPPORTUNITY. Department of State | South Shore Estuary Reserve