



**Peconic Estuary
Partnership**

PROTECTING AND RESTORING LONG ISLAND'S PECONIC BAYS

**August 19th, 2026
PEP TAC/NRSC JOINT Meeting
10:00am-12:00pm**

TAC Chairs: Matt Sclafani & Steve Heck
NRSC Chairs: Theresa Masin & Marissa Velasquez

Zoom Participants:

- Edit your zoom name to include your organization/affiliation. (*Open Participant window, Rename*)
- To interject, please use Raise Hand Feature
- Chat will be monitored.

Peconic Estuary Partnership Mission and Governance

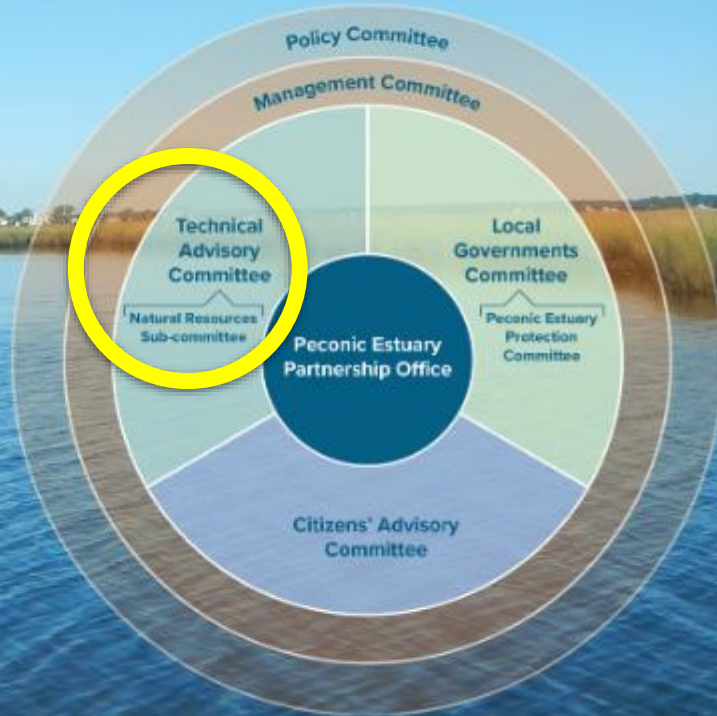
Our Mission

To protect and restore the Peconic Estuary and its watershed.

Our Vision

A successful partnership dedicated to restoring clean water, protecting and enhancing vibrant ecosystems and communicating sound science for nature-based coastal planning in the Peconic Estuary and its watershed.

This diagram shows the structure of the PEP Management Conference.



TAC Attendance & Roll Call



Dr. Stephen Heck

10:05: Attendance and Roll Call

NRSC Attendance & Roll Call



Theresa Masin

10:10: Attendance and Roll Call

Attendance

Technical Advisory Committee Core Voting Organization List

Accabonac Protection Committee
Association of Marine Industries (AMI)
Central Pine Barrens Joint Planning and Policy Commission
Concerned Citizens of Montauk (CCOM)
Cornell Cooperative Extension of Suffolk County (CCE)
Group for the East End (GFEE)
New York Sea Grant
New York State Department of Environmental Conservation (NYSDEC)
Peconic Baykeeper
Peconic Estuary Protection Committee (PEPC)
Peconic Land Trust (PLT)
Seatuck Environmental Association
State University of New York at Stony Brook
Suffolk County
Suffolk County Soil and Water Conservation District (SCSWCD)
The Nature Conservancy (TNC)
Town of Brookhaven
Town of East Hampton
Town of Riverhead
Town of Shelter Island
Town of Southampton
Town of Southold
Town of Southampton Trustees
Town of Southold Trustees
Town of EH Trustees
United States Geological Survey (USGS)
Village of Greenport
Village of Dering Harbor
Village of North Haven
Village of Sag Harbor

Each organization
that is included in
the Core Voting
Organizations list is
entitled one
member vote.

Natural Resource SubCommittee Core Voting Organization List

Accabonac Protection Committee Audubon New York
Central Pine Barrens Joint Planning and Policy Commission
Concerned Citizens of Montauk (CCOM)
Cornell Cooperative Extension of Suffolk County (CCE)
Group for the East End (GFEE)
Long Island Invasive Species Management Association
New York Sea Grant
New York State Department of Environmental Conservation (NYSDEC)
Peconic Baykeeper
Peconic Land Trust
Seatuck Environmental Association
State University of New York at Stony Brook
Suffolk County
Suffolk County Parks
The Nature Conservancy (TNC)
Town of Brookhaven
Town of East Hampton
Town of Riverhead
Town of Shelter Island
Town of Southampton
Town of Southold
Town of Southampton Trustees
Town of Southold Trustees
Town of EH Trustees
United States Geological Survey (USGS)
United States Fish and Wildlife Service (USFWS)
Village of Greenport
Village of Dering Harbor
Village of North Haven
Village of Sag Harbor



Committee Chairs



Co-Chairs appointed every two (2) years

TAC Leadership:

Co-Chairs: Matt Sclafani* & Stephen Heck*

*Re- appointed: October 2025

NRSC Leadership:

Co-Chairs: Theresa Masin* & Marissa Velasquez

*Re-appointed: October 2025

Peconic Estuary Partnership Management Structure

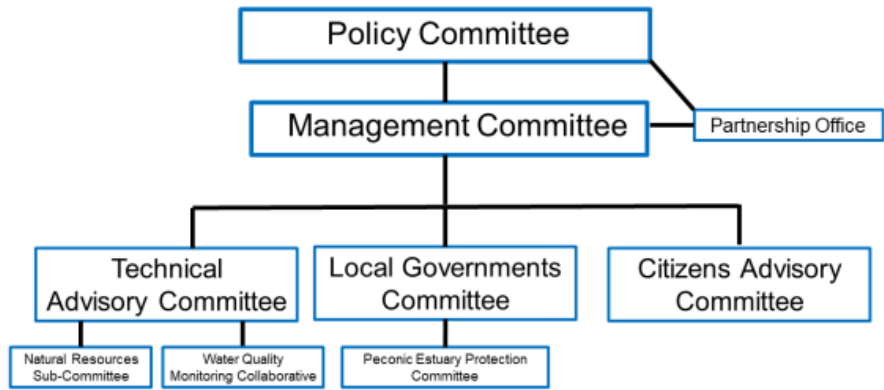


Figure 1. The Peconic Estuary Partnership’s management structure, all supported by the Partnership’s office staff.

Motion needed to accept x meeting minutes from April 8th, 2026 TAC meeting & February 5th, 2026 NRSC meeting

2020 Measurable targets (10-year targets)

SAV Targets:

- Increase in eelgrass shoot density and extent in existing beds
- Overall net increase in extent of Peconic eelgrass beds

Wetland/Shoreline Targets

- Restore 250 acres of tidal wetland habitat = *Currently at 105 acres*
- Net increase in native high marsh habitat and total native marsh habitat from 2005 level
- Net decrease in acres of invasive Phragmites from 2005 level
- No net increase in hardened shorelines (includes breakwaters, bulkheads/seawalls, groins, jetties, piers, and revetments) from next measurement

Diadromous Fish Habitat Targets:

- Restore 242 acres of diadromous fish habitat on the Peconic River - *Currently 203 acres*
- Restore an additional 60 acres of diadromous fish habitat within other areas of the Peconic watershed
- Increase in the alewife population in the Peconic River from current level

Land Protection Targets:

- **Acres to conserve → updates to CLPS Tool**

2020 PECONIC ESTUARY PARTNERSHIP HABITAT RESTORATION PLAN



Prepared by:

Elizabeth Hornstein, Peconic Estuary Partnership State Coordinator

Plan originally prepared in 2017. Final revisions 2020.



2020 Habitat Restoration Plan Update

NRSC

- Habitat plan was last updated in November 2024
- Project statuses were updated
- No new projects contributed to the plan
- **Submissions for habitat nominations are open for 2026 update**
 - Link to form here:
 - Please submit to program office by December 2026 for review
 - Updated plan will be presented at the next NRSC meeting in early 2027

2020 PECONIC ESTUARY PARTNERSHIP HABITAT RESTORATION PLAN



Prepared by:

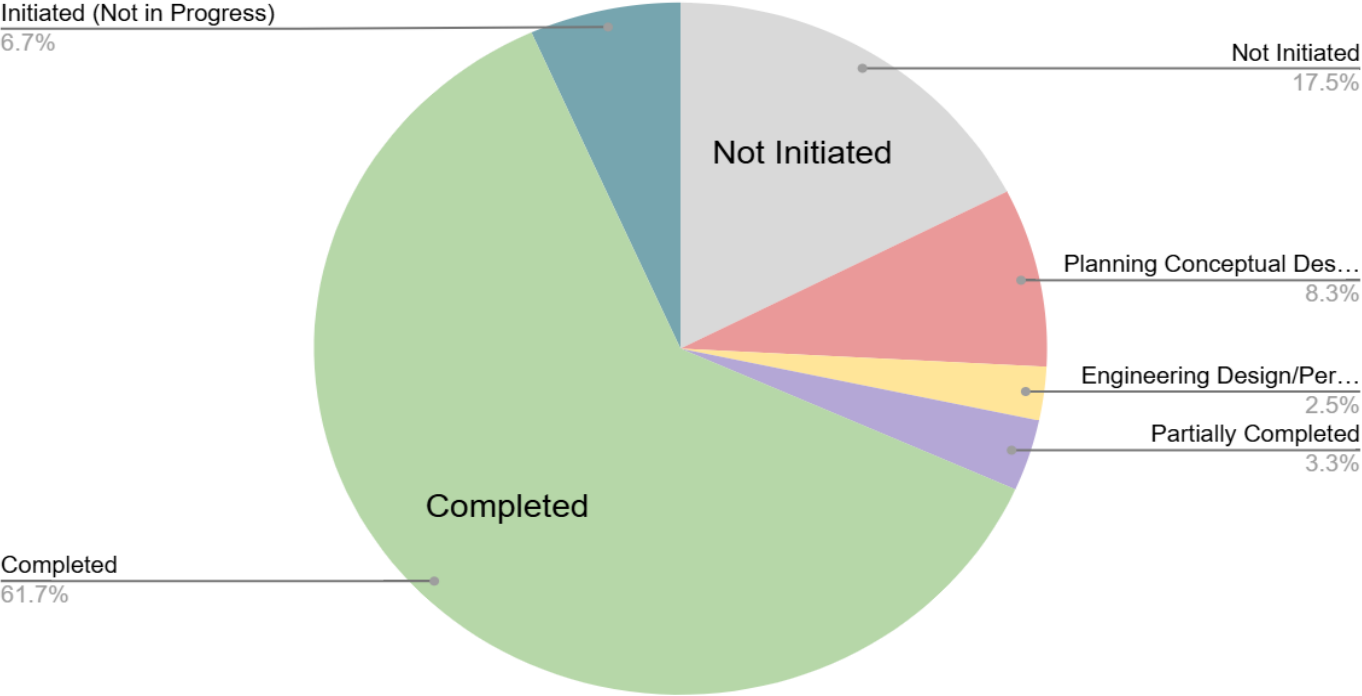
Elizabeth Hornstein, Peconic Estuary Partnership State Coordinator

Plan originally prepared in 2017. Final revisions 2020.



Habitat Plan Project Status

2020 Habitat Plan Update Project Progressions



Project Mapper Updates and Current Status



45 projects listed on PEP mapper with status updates (includes PEP Projects)



Acres to Conserve - Last Joint Meeting, August 2025

- *Tier 1 Priority:*
 - Publicly owned, undeveloped parcels
 - Available shoreline parcels
 - 0-2 yr travel time areas (subwatershed priorities)
 - Aquifer protection in undeveloped parcels
 - **Agriculture Land (voted on in last NRSC meeting)**
- *Tier 2 Priority:*
 - Every other undeveloped parcel

NRSC voted to this priority tiering of these parcel classifications

Committee voted that these are the parcels that should be focused on to conserve under PEP NRSC

PEP CLPS Tool Updates



10:20 Dr. Sung Gheel Jang, *Geospatial Center*

CLPS Tool Updates

Data sources

10:50 Questions/Discussion

PEP CLPS Ranking Tool 2.0



Geospatial Center

PEP Climate Ready Assessment (2019)

Documented the approach, methods, and results

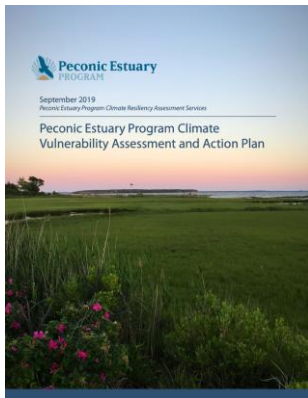


Figure 3: Climate-Based CLPS Criteria



Class 1: Habitat and Water Quality Protection

Contains or will contain
freshwater or tidal wetlands

Located within 1,000 feet of
the shoreline of a bay, tidal
creek, or the Peconic River

Located within a Critical
Natural Resources Area or a
Significant Coastal Fish and
Wildlife Habitat



Class 2: Inundation Areas

Located within a present-day
flood zone

Located in areas that will
become uninhabited under
future sea-level rise projections



Class 3: Groundwater Protection

Located within a zone of
groundwater recharge travel
time area between 0–25 years

Located in areas with predicted
increases in the saltwater
interface elevation that will
affect groundwater quality and
elevation, causing flooding at
the surface

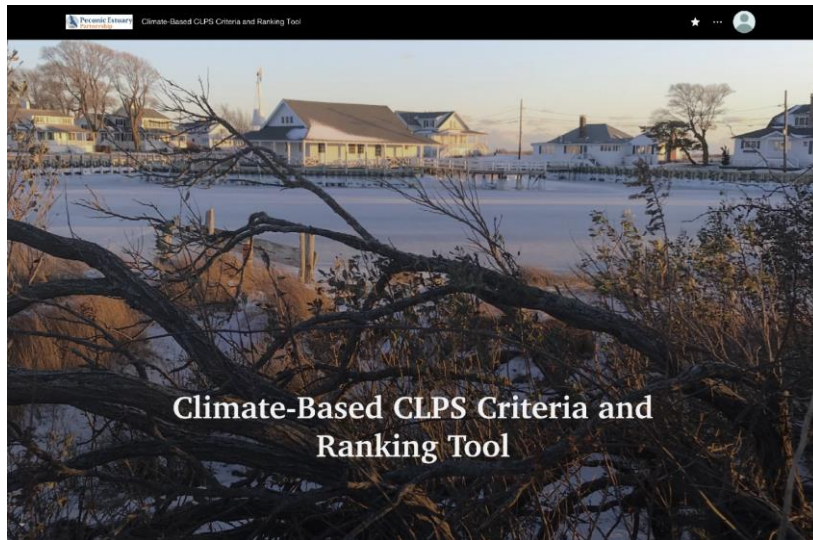
Located in special groundwater
protection area (100 + year
recharge)

Table 3: Undeveloped Land

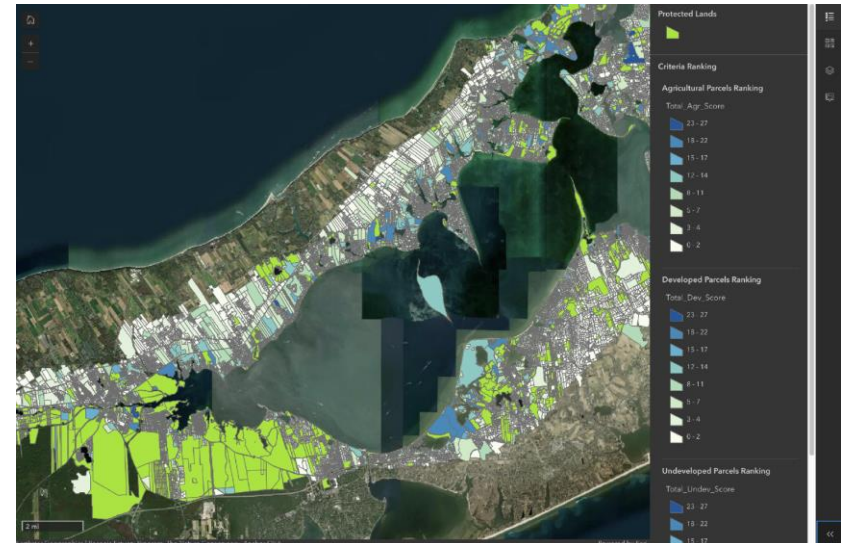
Undeveloped Land Scoring System						
CLASS	CRITERIA					
	Current (6" SLR)	2055 (21" SLR)	2100 (47" SLR)			
Provides Habitat and Water Quality Protection	Contains freshwater or tidal wetland	Will contain freshwater or tidal wetland	Will contain freshwater or tidal wetland			
	Located within Significant Coastal Fish and Wildlife Habitat					
Identify Inundation Areas	Located within a flood zone					
	Inundation beyond shoreline	Inundation beyond shoreline	Inundation beyond shoreline			
Groundwater Protection	Located within 0 - 25 year groundwater recharge zone					
	10' or less depth to groundwater		10' or less depth to groundwater*			
	Located within a special groundwater protection area					
Prioritization Categories		Score		Score	Score	
1: Nearshore undeveloped land:	Undeveloped land that is within 1,000' of the shoreline	1	Undeveloped land that will be within 1,000' of the shoreline	1	Undeveloped land that will be within 1,000' of the shoreline	1
2a: Priority land aggregates	Parcels of any size that contain one criterion	1	Parcels of any size that will contain at least one criterion	1	Parcels of any size that will contain at least one criterion	1
	Multiple parcels of any size that contains at least one criterion from two classes and forms an aggregate of >= 10 acres	2	Multiple parcels of any size that will contain one criterion from two classes and forms an aggregate of >= 10 acres	2	Multiple parcels of any size that will contain one criterion from two classes and forms an aggregate of >= 10 acres	2
2c: Priority land aggregates	Multiple parcels of any size that contains at least one criterion from three classes and forms an aggregate of >= 10 acres	3			Multiple parcels of any size that will contain one criterion from three classes and forms an aggregate of >= 10 acres	3
3a: 10 Up	Parcels >= 10 acres that contains one criterion	1	Parcels >= 10 acres that will contain one criterion	1	Parcels >= 10 acres that will contain one criterion	1
3b: 10 Up	Parcels >= 10 acres that contains at least one criterion from two classes	2	Parcels >= 10 acres that will contain one criterion from two classes	2	Parcels >= 10 acres that will contain one criterion from two classes	2
3c: 10 Up	Parcels >= 10 acres that contains at least one criterion from three classes	3			Parcels >= 10 acres that will contain one criterion from three classes	3
4a: Adjacent to Protected	Parcels of any size that are adjacent to protected lands >= 2 acres and contains one criterion	1	Parcels of any size that are adjacent to protected lands >= 2 acres and will contain one criterion	1	Parcels of any size that are adjacent to protected lands >= 2 acres and will contain one criterion	1
4b: Adjacent to Protected	Parcels of any size that are adjacent to protected lands >= 2 acres and contains at least one criterion from two classes	2	Parcels of any size that are adjacent to protected lands >= 2 acres and will contain one criterion from two classes	2	Parcels of any size that are adjacent to protected lands >= 2 acres and will contain one criterion from two classes	2
4c: Adjacent to Protected	Parcels of any size that are adjacent to protected lands >= 2 acres and contains at least one criterion from three classes	3			Parcels of any size that are adjacent to protected lands >= 2 acres and will contain one criterion from three classes	3
Maximum score = 27						
Notes:						
Undeveloped = "Vacant, Recreation & Open Space" from Suffolk County Land Use 2016.						
Current scenario relies on existing base maps (e.g., Significant Coastal Fish and Wildlife Habitat, FEMA mapping, groundwater recharge zones, groundwater protection areas) and the 6" SLR SLAMM estimates for inundation and marsh areas.						
*Based on 34" SLR projection included in CDM groundwater model prediction.						

2019 CLPS Ranking Tool

The products of PEP Climate Ready Assessment (2019)



[ArcGIS StoryMap](#)
[Story](#)



[Map Viewer of the Ranked](#)
[Lands](#)

Table 3: Undeveloped Land

Undeveloped Land Scoring System			
CLASS	CRITERIA		
	Current (6" SLR)	2055 (21" SLR)	2100 (47" SLR)
Provides Habitat and Water Quality Protection	Contains freshwater or tidal wetland	Will contain freshwater or tidal wetland	Will contain freshwater or tidal wetland
	Located within Significant Coastal Fish and Wildlife Habitat		
Identify Inundation Areas	Located within a flood zone		
	Inundation beyond shoreline	Inundation beyond shoreline	Inundation beyond shoreline
Groundwater Protection	Located within 0 - 25 year groundwater recharge zone		
	10' or less depth to groundwater		10' or less depth to groundwater*
	Located within a special groundwater protection area		

Notes:

Undeveloped = "Vacant, Recreation & Open Space" from Suffolk County Land Use 2016.

"Current" scenario relies on existing base maps (e.g., Significant Coastal Fish and Wildlife Habitat, FEMA mapping, groundwater recharge zones, groundwater protection areas) and the 6" SLR SLAMM estimates for inundation and marsh areas.

*Based on 34" SLR projection included in CDM groundwater model prediction.

Sea-Level Rise Projections

6 NYCRR Part 490

	Region	Long Island					
	Descriptor	Low	Low-medium	Medium	High-medium	High	Rapid Ice Melt
Time Interval	2030s	7	8	10	12	14	NA
	→ 2050s	13	15	18	21	25	NA
	2080s	23	26	32	41	48	83
	→ 2100	27	32	39	54	69	114
	2150	42	50	63	94	185	NA

The 2019 CLPS Ranking Tool

Table 1: CRRR Sea Level Rise Projections for the Long Island Region

	Decades	Low	Low-Medium	Medium	High-Medium	High
➡	2020s	2	4	6	8	10
➡	2050s	8	11	16	21	30
	2080s	13	18	29	39	58
➡	2100	15	21	34	47	72

Source: 6 NYCRR Part 490, Projected Sea-level Rise. Inches of rise relative to 2000–2004 baseline.

- No SLAMM datasets for 54": **shoreline, inundation beyond shoreline, freshwater or tidal wetland**
- The 47" projection is greater than the 2100 medium scenario (39").
- The depth to groundwater projection was based on 34" SLR scenario.

Recommendation: Use the 47" projection datasets as is.

Dataset Update Evaluation for CLPS Ranking Tool 2.0

Dataset for the CLPS Tool	Use / CLPS Tool Criteria	Availability of the Latest Dataset	Issues and Resolution
Suffolk County Tax Map Data	Parcel boundaries, ownership information	YES, Suffolk County Real Property Tax Service Agency (ca. June 2025)	Use the attributes from a query
Suffolk County Land Use	Land use → Land type: Undeveloped, Agriculture, Developed	NO, Suffolk County (2016)	Use the PLT parcel dataset
Freshwater or tidal wetland	Class 1: current, 2055, 2100	YES, USFWS National Wetlands Inventory (2025)	<u>No updates in the Peconic Estuary;</u> Use the 2019 CLPS dataset
Inundation areas beyond shoreline and SLR (6", 21", 47")	Class 2: current, 2055, 2100	NO, SLAMM, NYSERDA / Warren Pinnacle (2015)	Use the 2019 CLPS dataset
Present-day flood zone	Class 2: current	YES, FEMA DFIRM (2025)	<u>No updates in the Suffolk County since 2009;</u> Use the 2019 CLPS dataset
Significant coastal fish and wildlife habitat	Class 1: current	YES, NYSDOS Significant Coastal Fish and Wildlife (2021)	<u>No updates in the Peconic Estuary;</u> Use the 2019 CLPS dataset
Groundwater travel time to surface waters	Class 3: current [0-25 years]	YES, USGS (2025), previously Suffolk County / CDM Smith (2016)	<u>Data access and resolution issue;</u> Use the 2019 CLPS dataset
Current depth to groundwater	Class 3: current [< 10' depth]	YES, USGS (2025), previously USGS (2016)	<u>Data access and resolution issue;</u> Use the 2019 CLPS dataset
Rising groundwater table (34" SLR)	Class 3: 2100 [< 10' depth]	NO, Suffolk County / CDM Smith (2016)	Use the 2019 CLPS dataset
Special Groundwater Protection Areas (Critical Environmental Areas)	Class 3: current	YES, NYSDEC (2026)	<u>No updates in the SPGAs since 1993;</u> Use the 2019 CLPS dataset as is

Land Classification of the 2019 CLPS Ranking Tool

The 2019 CLPS Ranking Tool classified lands into **three** categories based on the **2016 Suffolk County Land Use** dataset and scored each category separately.

- **Undeveloped:** Vacant or Recreation & Open Space
- **Agriculture:** Agricultural
- **Developed:** All other parcels, except above

- **Protected lands:** Vacant or Recreation & Open Space and owned by a government entity or a land trust (not for scoring, but important condition for land prioritization)

Land Classification of CLPS Ranking Tool 2.0

CLPS Ranking Tool 2.0 categorized land into **three** groups based on the **Peconic Land Trust parcel dataset** and scored each group separately, consistent with the methodology used in the 2019 CLPS Ranking Tool.

- **Undeveloped:** MapID = 'Unprotected/Threatened'
- **Agriculture:** Farmland = 'Y'
- **Developed:** MapID IN ('Developed', 'Unprotected (Partially Developed)', 'Government Services, Religion, Non-Profit, Other', 'Golf Courses', 'Water Utilities')
- **Protected lands:** MapID IN ('Publicly or Privately Protected', 'Peconic Land Trust Projects')

NOTE: Any parcels (MapID = 'Underwater Land') were excluded.

Comparison of Land Categories

Parcels in the Peconic Estuary Watershed

Parcel Category	2019 CLPS Ranking Tool		CLPS Ranking Tool 2.0	
	# of Parcels	Acres	# of Parcels	Acres
Protected	*4,045	*40,846	5,108	51,949
Undeveloped	*6,170	*16,423	4,079	11,262
Developed	44,003	49,918	45,944	55,783
Agricultural	745	11,563	795	12,576
<i>Farmland / Protected</i>			303	6,658
<i>Farmland / Undeveloped</i>			370	4,922
<i>Farmland / Developed</i>			122	995
Total	54,963	118,750	55,131	118,994

* In the 2019 CLPS Ranking Tool, the undeveloped parcel dataset comprised 10,215 parcels in total, including 4,045 protected parcels.

PEP CLPS Ranking Tool 2.0 Requirements

Objectives:

- To help decision makers identify and prioritize opportunities to protect unprotected lands adjacent to protected lands and enhance habitat connectivity across the landscape.
- To help decision makers identify undeveloped areas and vulnerable developed or agricultural lands for adaptation planning.

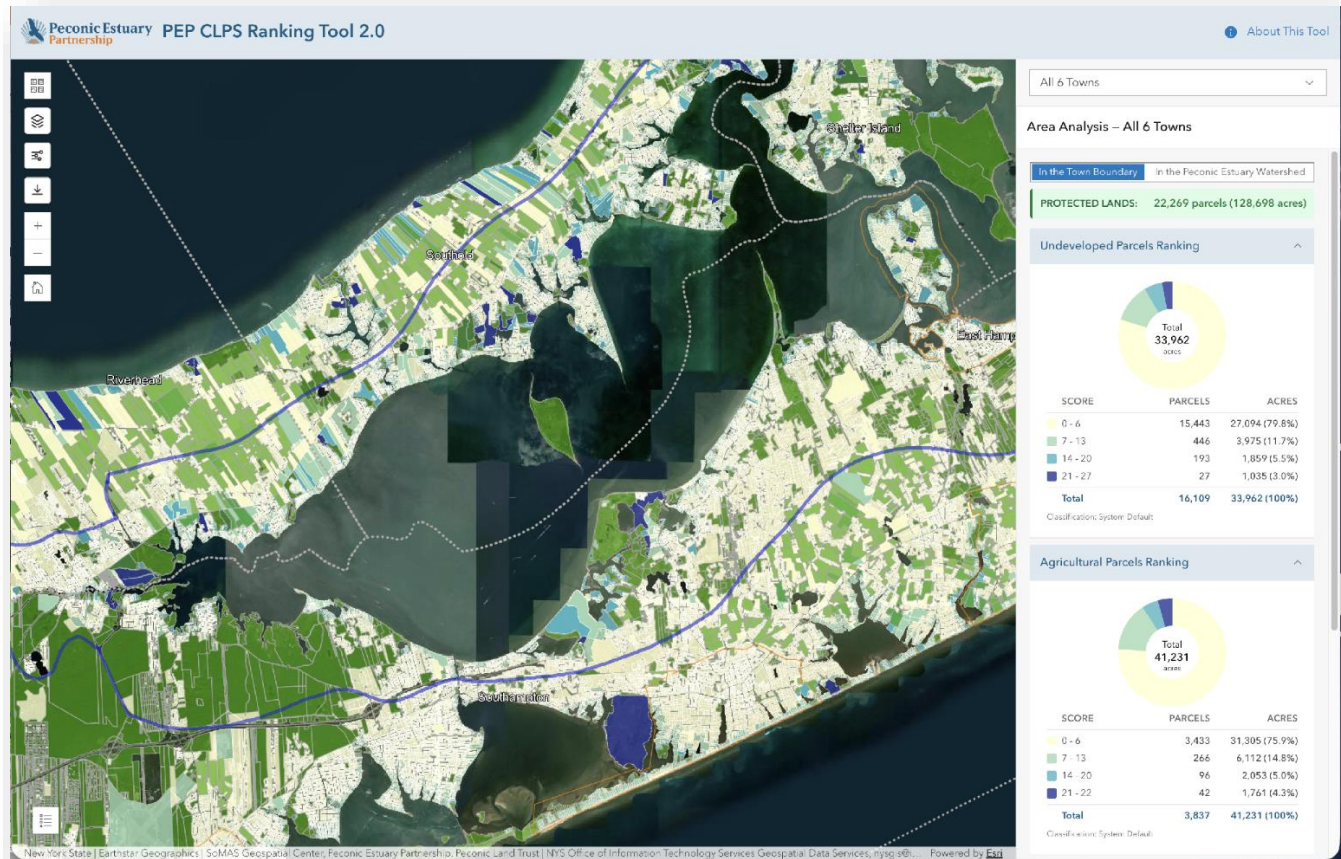
End-Users:

CPF boards, nonprofit partners, or municipalities involved in making acquisition priorities

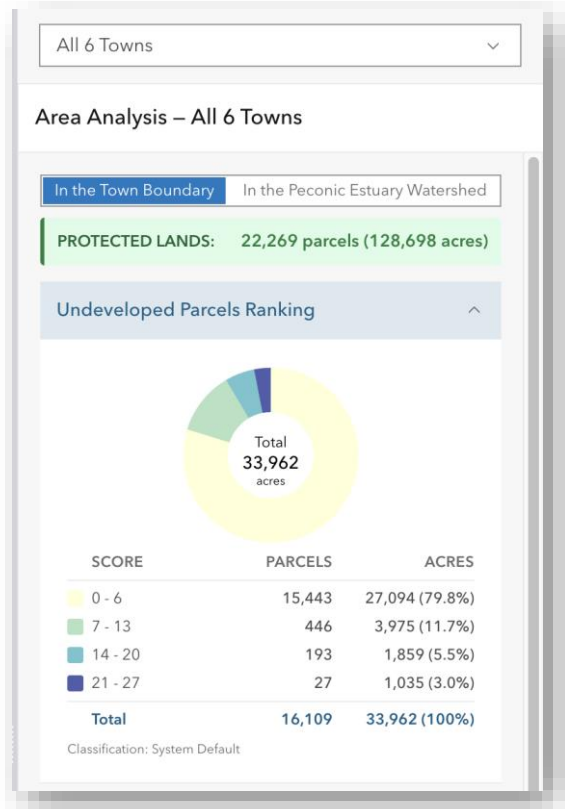
Requirements:

- Users can produce map layers by selecting one of six towns.
- Users can set weights of prioritization categories.
- Users can change the classification method visualizing the total scores of three land types (undeveloped, agricultural, and developed).
- Users can download the GIS files to use and integrate with their own systems.

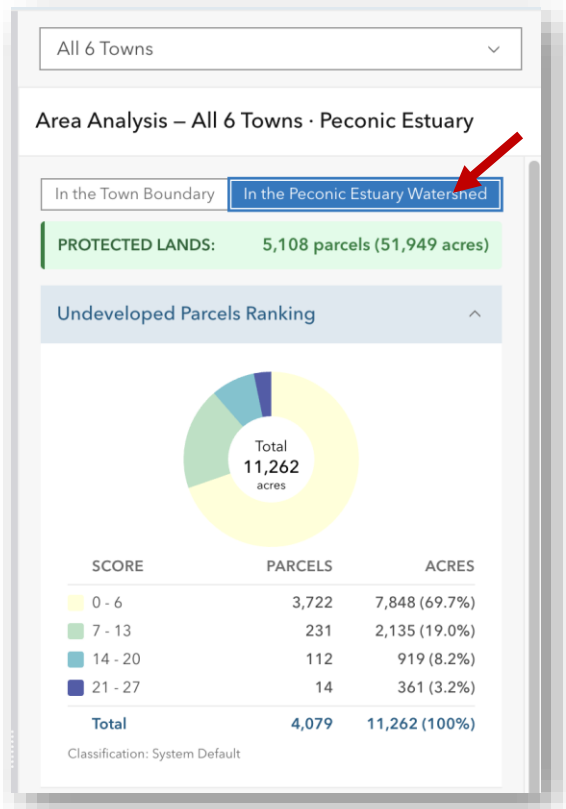
PEP CLPS Ranking Tool 2.0 <https://hub.qss.stonybrook.edu/apps/pep-clps2>



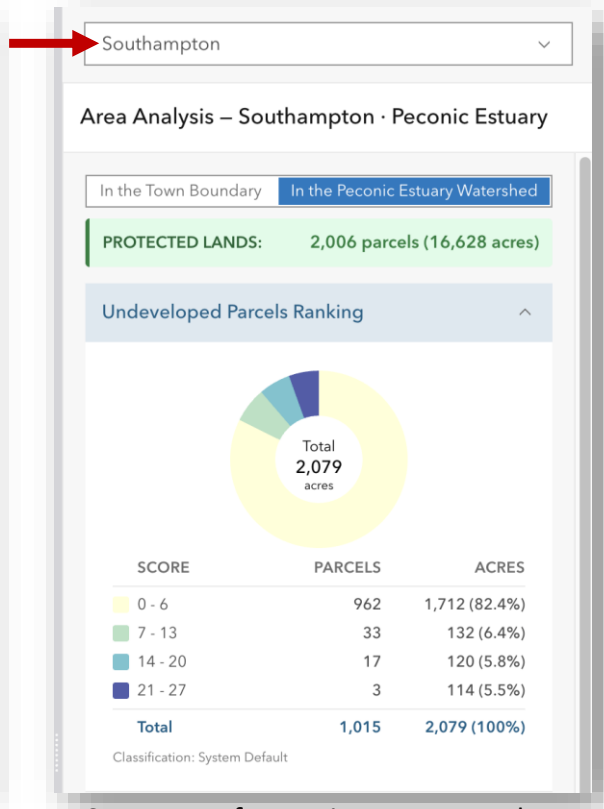
Interactive Side Panel (Dashboard)



Land Summary for the Six Towns

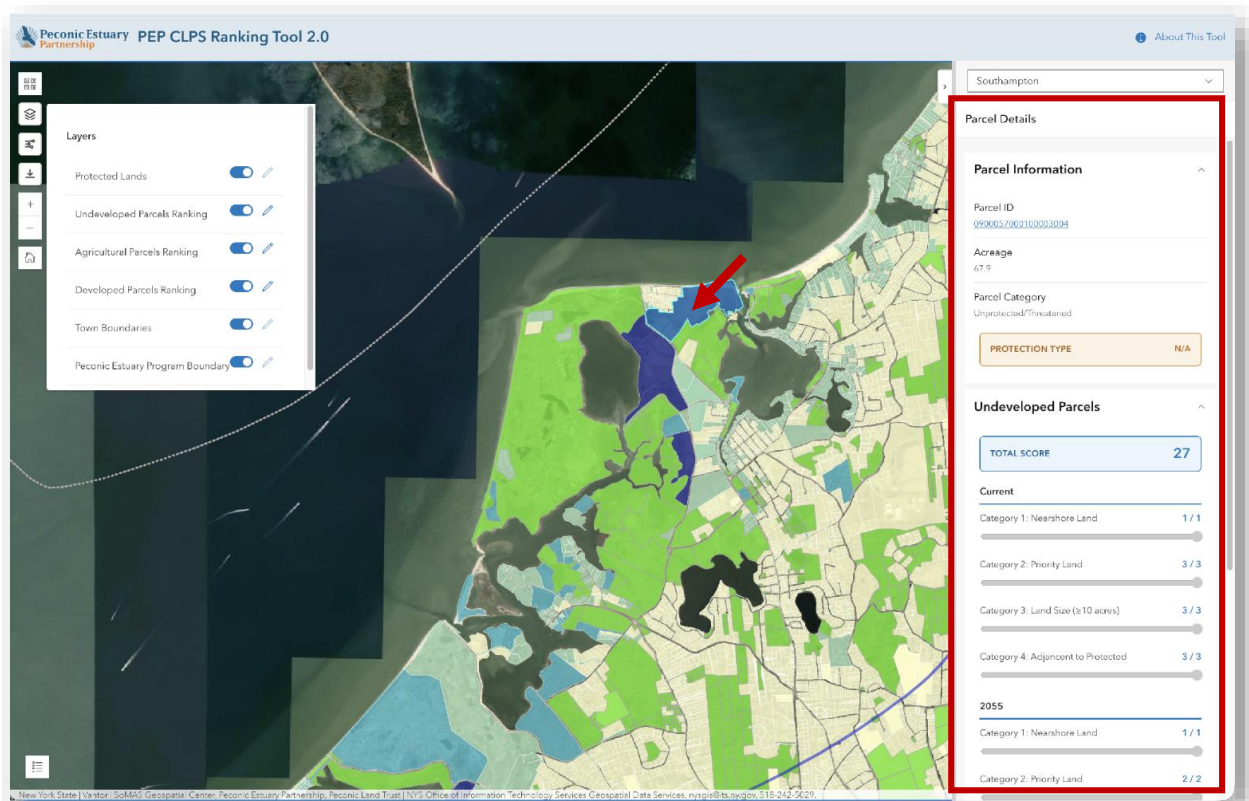


Summary of Peconic Estuary Lands



Summary of Peconic Estuary Lands within the Town of Southampton

Parcel Details



Parcel Details (Link to Suffolk County Open Data)

Peconic Estuary Partnership PEP CLPS Ranking Tool 2.0

Layers:

- Protected Lands
- Undeveloped Parcels Ranking
- Agricultural Parcels Ranking
- Developed Parcels Ranking
- Town Boundaries
- Peconic Estuary Program Boundary

Southampton

Parcel Details

Parcel Information

Parcel ID: 0900057000100003004

Acreage: 67.9

Parcel Category: Unprotected/Threatened

PROTECTION TYPE: N/A

Undeveloped Parcels

TOTAL SCORE: 27

Current

Category 1: Nearshore Land: 1 / 1

Category 2: Priority Land: 3 / 3

Category 3: Land Size (≥10 acres): 3 / 3

Category 4: Adjacent to Protected: 3 / 3

2055

Category 1: Nearshore Land: 1 / 1

Category 2: Priority Land: 2 / 2

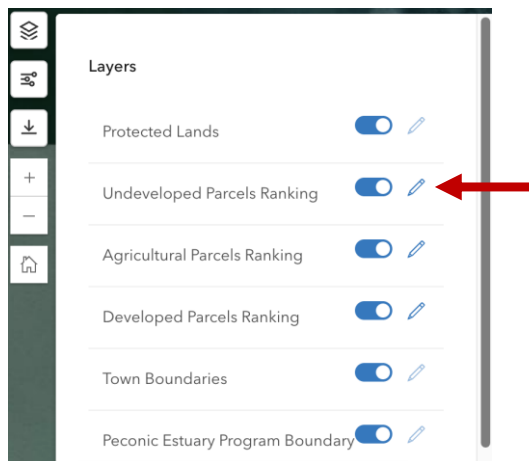
Suffolk County Tax Parcel

Parcel ID 0900057000100003004

Land Use	210: SIMPLEX
Address	2340 North Sea Road
Municipality	Southampton
ZIP Code	11968
Dist-Sect-Block-Lot	0900 - 05700 - 0100 - 003004
Acreage	67.87 acres
Deed Acreage	N/A
Frontage × Depth	931 × VAR
Status	ACTIVE
Title Flag	No
Overlap	No
Last Updated	N/A

Source: [Suffolk County Open Data](#)

Layer Edit: Color Scheme and Classification Method



Selected Layer: Undeveloped Parcels Ranking

Style Options

Color Scheme

Method: System Default

Classes: 4

Appearance	Start	End
	0	6
	7	13
	14	20
	21	27

Cancel Apply

Selected Layer: Undeveloped Parcels Ranking

Style Options

Color Scheme

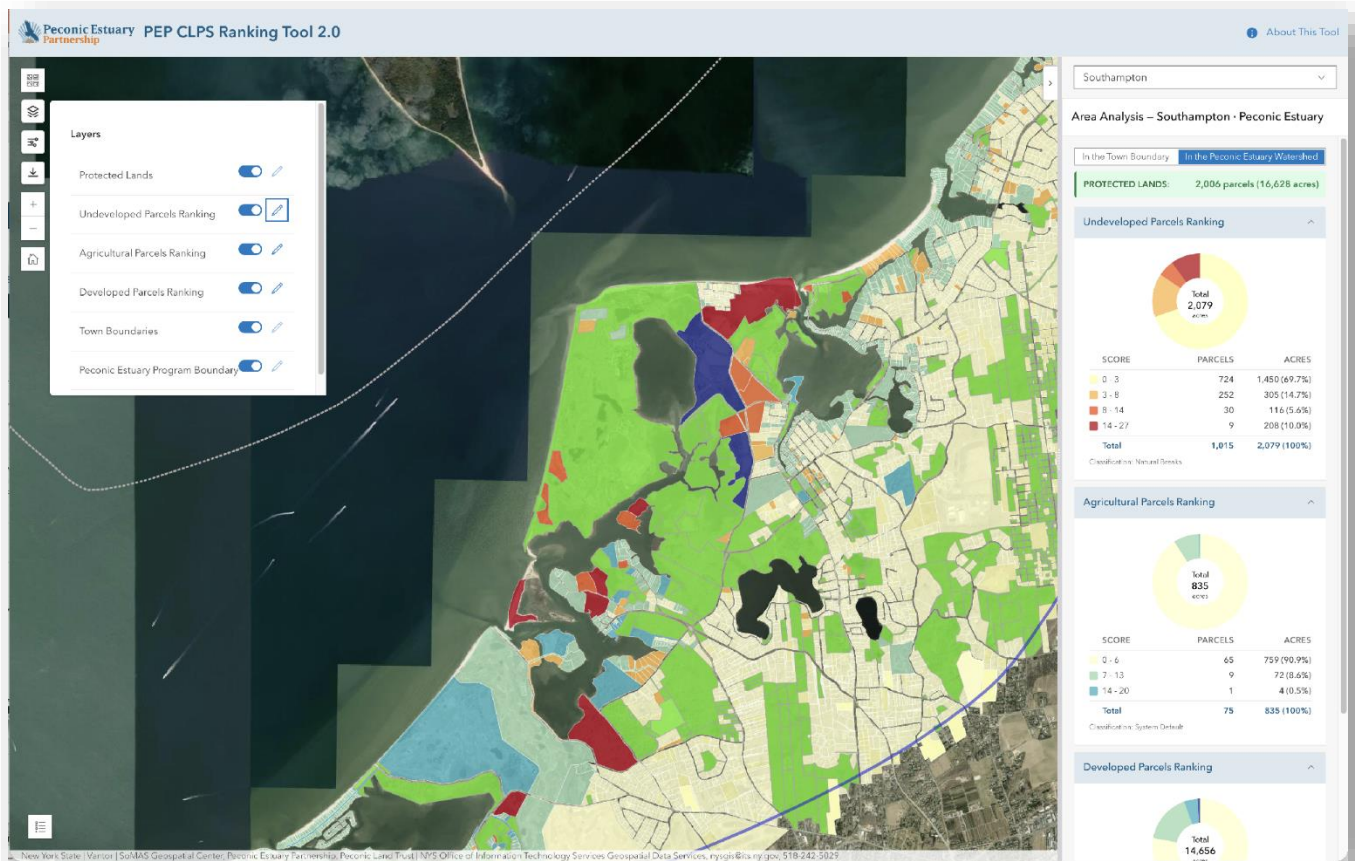
Method: Natural Breaks

Classes: 4

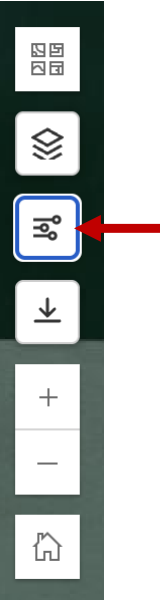
Appearance	Start	End
	0	3
	3	8
	8	14
	14	27

Cancel Apply

Updated Color Scheme and Classification Method



Prioritization Category Weights



Prioritization Category Weights

A parcel's ranking score is the sum of its Prioritization Category values. Adjust the share each category contributes – an even split (25% each) reproduces the stored scores. The categories you set stay put; the rest adjust to keep the total at 100%.

Category 1: Nearshore Land (within 1000 ft of the Shoreline)

25 %

25

Category 2: Priority Land (# of Classes Meeting Criteria)

25 %

25

Category 3: Land Size (At Least 10 Acres)

25 %

25

Category 4: Adjacency to Protected Land

25 %

25

Total

100%

Reset

Cancel

Apply

Equal Weights
(Default)

Prioritization Category Weights

A parcel's ranking score is the sum of its Prioritization Category values. Adjust the share each category contributes – an even split (25% each) reproduces the stored scores. The categories you set stay put; the rest adjust to keep the total at 100%.

Category 1: Nearshore Land (within 1000 ft of the Shoreline)

70 %

70

Category 2: Priority Land (# of Classes Meeting Criteria)

10 %

10

Category 3: Land Size (At Least 10 Acres)

10 %

10

Category 4: Adjacency to Protected Land

10 %

10

Total

100%

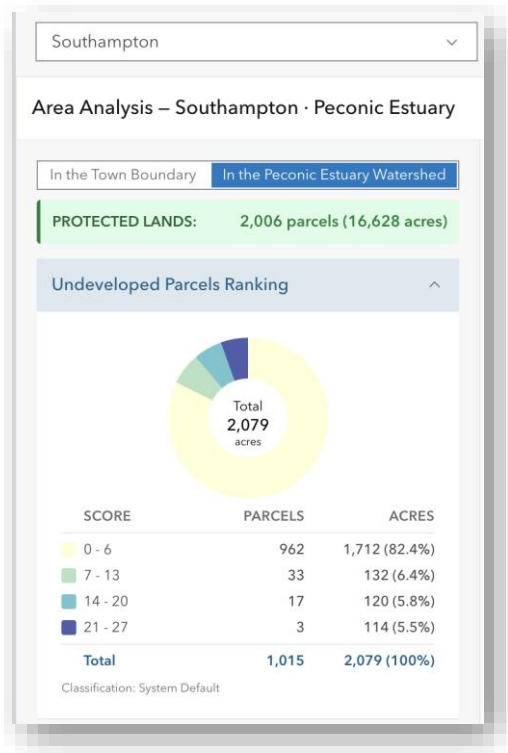
Reset

Cancel

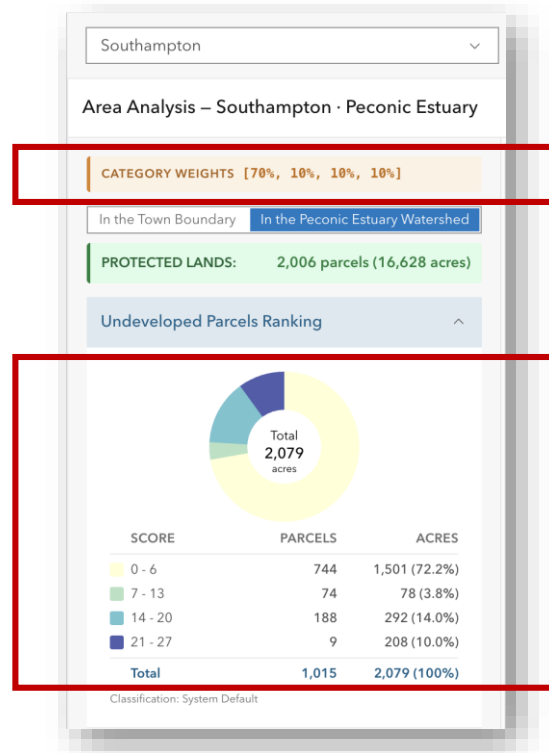
Apply

Hypothetical
Weights

Updated Scores Based on New Prioritization Category Weights

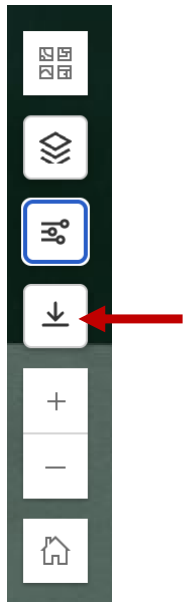


Equal Weights
(Default)



After Applying the Hypothetical
Weights

Download Layers



Download Layers

Export parcel layers for a single town or the whole study area. Ranking layers include the current weighted score alongside the raw attributes (Note: [Data Dictionary](#)).

Files are built in your browser, not on a server – large exports (e.g. All Towns with multiple layers) can take a while and use significant memory. Keep this tab open until the download starts.

Format

☒ GeoPackage (Recommended) ☐ Shapefile ☐ GeoJSON

Town

Southampton

Extent

☐ In the Town Boundary

☒ In the Peconic Estuary Watershed

Layers

☒ Undeveloped Parcels Ranking

☒ Agricultural Parcels Ranking

☒ Developed Parcels Ranking

☒ Protected Lands

Cancel

Download

Discussion Items

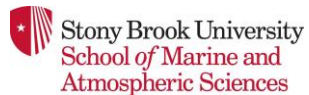
1. The Use of the PLT Parcel Dataset
 - Land Classification
 - Update Frequency: Annual
2. Update of other criteria datasets
 - When significant updates are available or every 2 years

Questions?

- SungGheel.Jang@stonybrook.edu



Geospatial Center



PEP CCMP Five Year Review



11:00 Dr. Joyce Novak *PEP*

Updates to the PEP CCMP

11:10 Questions/Discussion

Goal: Strong Partnerships

01 Finalize and implement the updated PEP Organizational Plan
Complete

04 Secure increased funding as part of a final Financial Plan
Complete

07 Involve community members in citizen science programs
Complete

02 Develop & launch a CCMP Tracking System on the PEP website
Complete

05 Strengthen engagement with initiatives of other entities
In Progress

08 Conduct outreach events to support estuary health
Ongoing

03 Implement State of Peconic Estuary science-based reporting
Complete

06 Increase community awareness of CCMP goals and PEP
Complete

09 Incorporate environmental justice in outreach materials
Ongoing

Goal: Resilient Communities

10 Incorporate climate change considerations into new/existing projects of PEP and partner organizations
Complete / Ongoing

11 Provide tools and assistance to local government to mitigate and adapt to the impacts of climate change
Complete

12 Mitigate climate change through coastal ecosystem management
Complete / Ongoing

13 Collaborate on coastal and ocean acidification monitoring and research
Complete / Ongoing

14 Increase public awareness of anticipated climate impacts on the Peconic Estuary and ways to prepare
In Progress

15 Strengthen partnership with Shinnecock Indian Nation to implement Climate Ready Action Plan
Ongoing

Goal: Clean Water

16 Identify areas of clean water quality and deliver information to protect those areas (WQ Monitoring, App, QAPPs)
Complete / Ongoing

17 Plan science-based approaches for monitoring and reducing nutrient pollution (Strategy, Parcel N tool, Database)
In Progress

18 Implement science-based approaches for monitoring and reducing nutrient pollution
In Progress

19 Collate results of harmful algal blooms (HABs) monitoring and deliver findings to support decision making
Ongoing

20 Conduct analysis to understand sources of toxic contaminants and implement measures to reduce impacts
In Progress

21 Expand non-point source subwatershed plans to all pathogen-impaired waterbodies (PFAS, pesticides)
In Progress

22 Assess marine debris in the Peconic Estuary and develop plans to address problems that are found
In Progress

Goal: Healthy Ecosystem & Abundant Wildlife

23 Conduct scientific studies to expand understanding of the Peconic Estuary ecosystem and support ecosystem-based management

In Process

24 Review and update data for rare, protected and endangered species in the Peconic Estuary to support the development of protection strategies

Unexecuted

25 Quantify the recreational use and value of the natural resources within the Peconic Estuary watershed

Unexecuted

26 Quantify impacts of fishing, aquaculture, boating, dredging, and shoreline structures on habitats to foster sustainable uses compatible with biodiversity

In Process

27 Facilitate spatial planning of the Peconic Estuary to help mitigate resource-use conflicts and ensure protection of critical habitats

In Process

28 Protect critical natural resource areas and high-priority lands in the Peconic Estuary watershed

Complete / Ongoing

29 Maintain, restore and enhance viable diadromous fish spawning and maturation habitat in the watershed

Complete / Ongoing

30 Monitor and protect existing eelgrass beds; where appropriate, restore and expand eelgrass beds

Complete / Ongoing

31 Use available habitat assessment and climate tools to prioritize and implement wetland restoration projects from 2020 PEP Plan

Complete / Ongoing

32 Review existing wetland/shoreline protection regulations and draft model laws for Towns to strengthen protections and resiliency

Complete

33 Implement living shoreline projects, monitor benefits, and educate planners and homeowners on non-hardened alternatives

In Process

34 Develop habitat restoration and protection strategies for key species in the watershed (e.g., otters, terrapins, horseshoe crabs)

In Process

35 Monitor results of shellfish restoration efforts, share findings, and encourage creation of shellfish spawning sanctuaries

In Process

Tanbark Creek Pilot Permeable Reactive Barrier (PRB) Long Term Monitoring 2023-2026 Results

Cornell Cooperative Extension of Suffolk County (CCE)

Molly Graffam, PhD

meg372@cornell.edu

PRB design by CDM Smith

subcontractor Coastline Evaluation Inc. (Ron Paulsen, PG & Patrick Murray)

Funding from Peconic Estuary Partnership

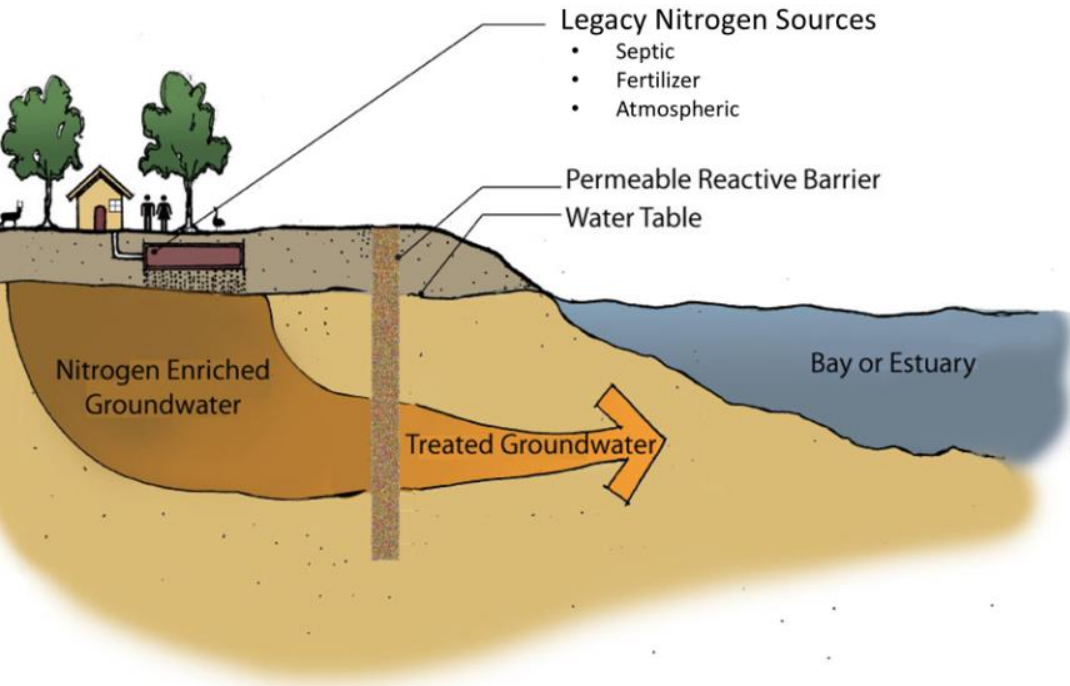
Town of East Hampton Community Preservation Fund

NYS DEC WQIP



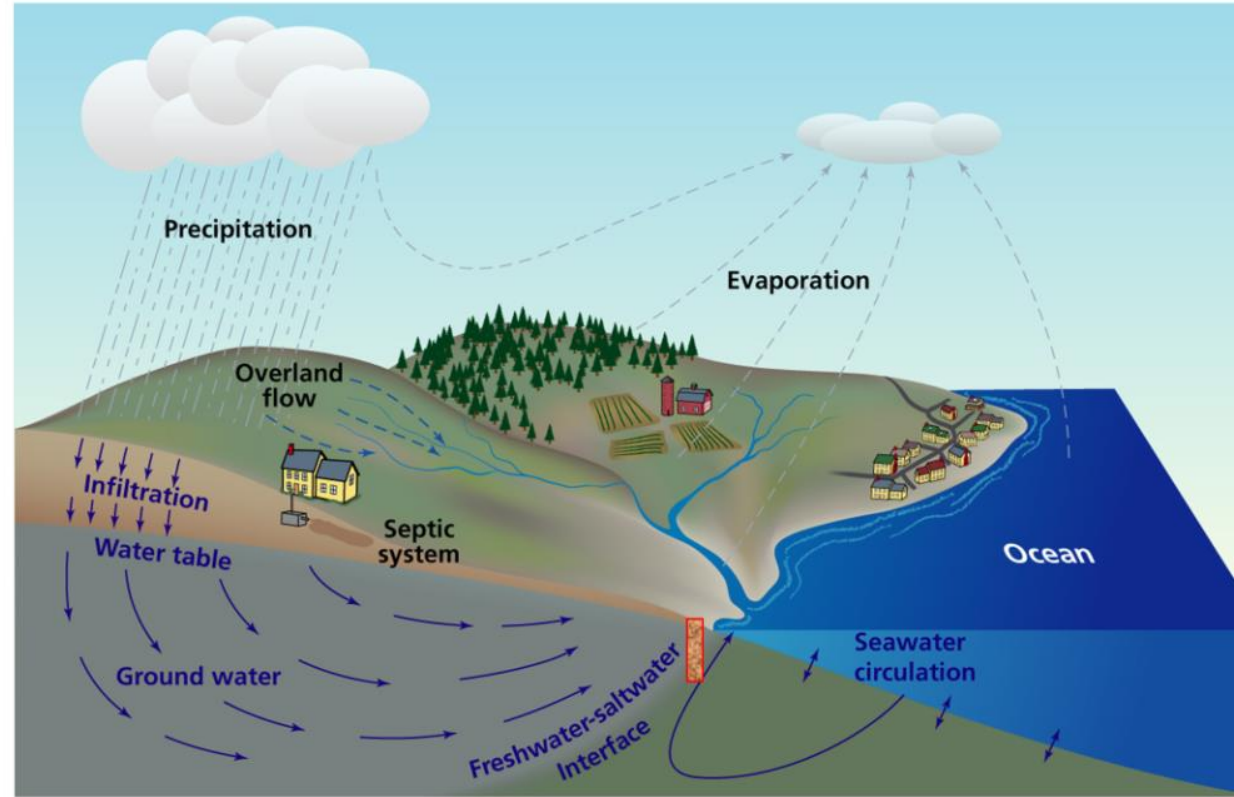
- Background on PRBs
- Tanbark Creek Pilot PRB
Long term monitoring plan
overview
- Pilot PRB performance
2023-2026
- Design report figures
- Summary

Permeable Reactive Barrier (PRB) Technology



- The permeability of the barrier is higher than surrounding soil so water preferentially flows into the barrier
- Woodchips or vegetable oil provides carbon “food” for microbes which consume oxygen and then nitrate
- Microbes are already present in the soil and by providing the right conditions they perform denitrification reaction naturally
- Regardless of source, PRB converts nitrate (nutrient) into harmless nitrogen gas

- Since early 1990's PRBs have been used in the midwest US & Canada to treat fertilizer/agricultural/septic derived nitrate plumes (Robertson and Cherry 1995, Robertson et al. 2008, Schipper et al. 2010)
- Recently installed near impaired waterbodies in Suffolk County and Cape Cod as an approach to mitigate surface water nitrogen pollution by intercepting and treating legacy groundwater nitrogen before it enters coastal waterbodies (Barbaro et al. 2019, Graffam et al. 2020, Dombrowski et al. 2023)
- Cornell Cooperative Extension (CCE) has been involved in 5 pilot PRBs installed on the East End

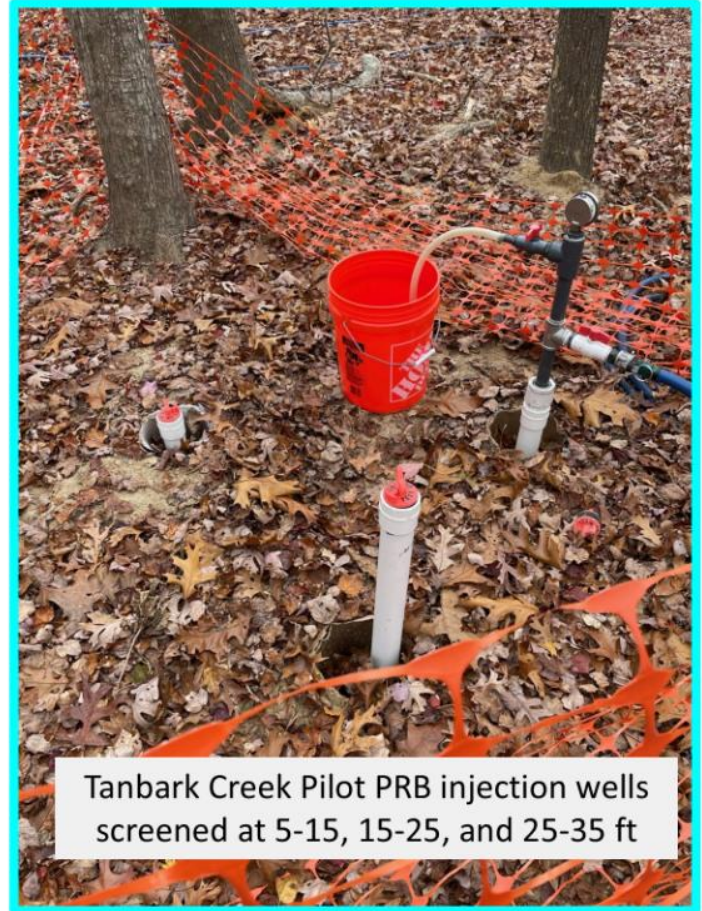


Modified from Jack Cook, WHOI

Injection of EPA approved emulsified vegetable oil below ground acts as an organic carbon source for naturally occurring microbes and creates a PRB which can passively treat and de-nitrify groundwater



- Pilot PRB designed by CDM Smith with data collected by CCE and CDM Smith
- Installed Fall 2022 - First injection PRB on Long Island
- Conservative design



Tanbark Creek Pilot PRB injection wells screened at 5-15, 15-25, and 25-35 ft

Long Term Monitoring (LTM) Plan Overview

1. PRB performance monitoring - CCE

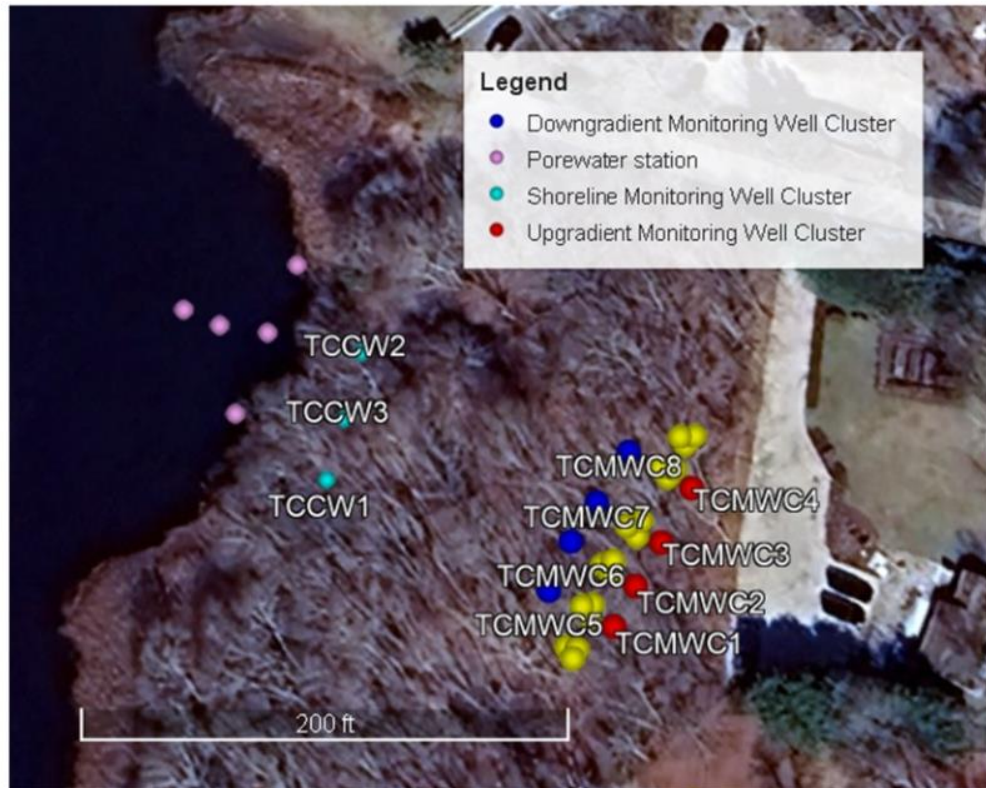
- Quarterly nitrogen monitoring of 8 well clusters (4 upgradient, 4 downgradient, 16 wells total)
- Additional analytes of interest (sulfate, sulfide, alkalinity, DOC, dissolved iron) monitored annually
- Shoreline cluster wells analyzed for N, iron, and carbon

2. PRB carbon injection longevity monitoring - CCE

- Annual soil boring collection - analysis for soybean oil and total organic carbon content

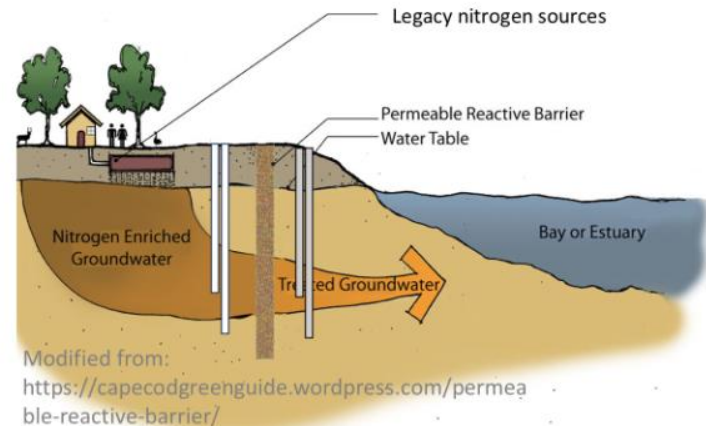
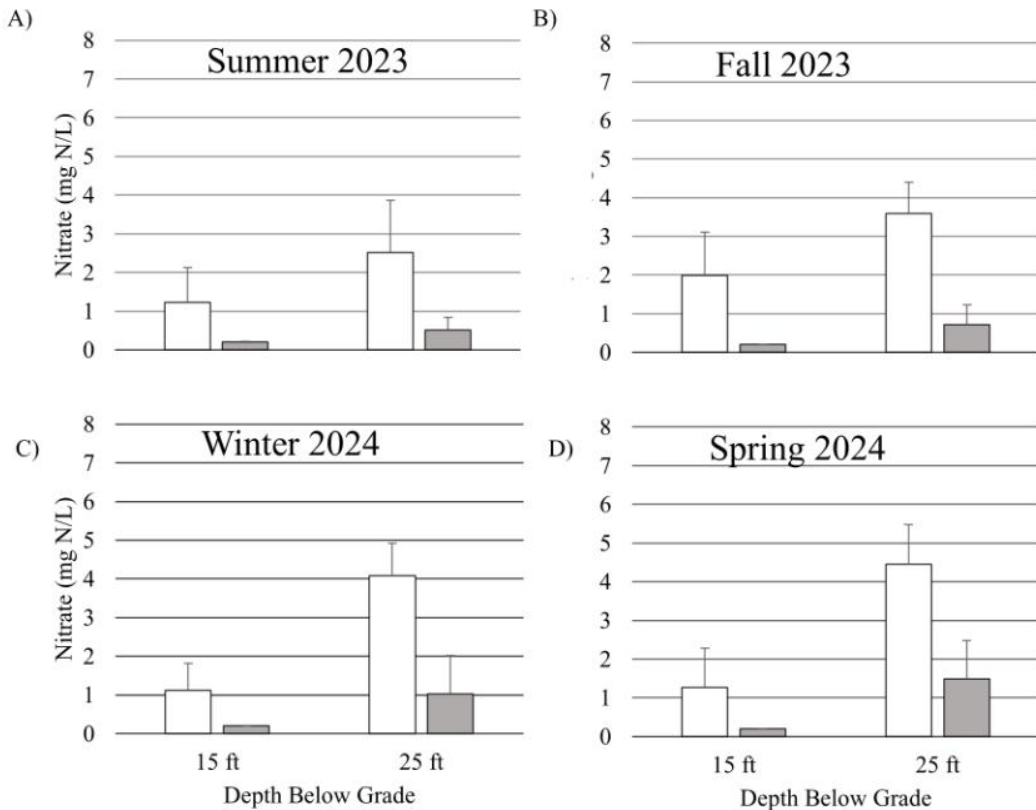
3. Tanbark Creek water quality monitoring - CLEAR

- Bi-annual porewater/surface water sampling for nitrogen at pre-established LTM stations
- Bi-annual SGD rate with seepage meter over the tidal cycle



2023-2024 Tanbark Creek Pilot PRB Long Term Performance Monitoring

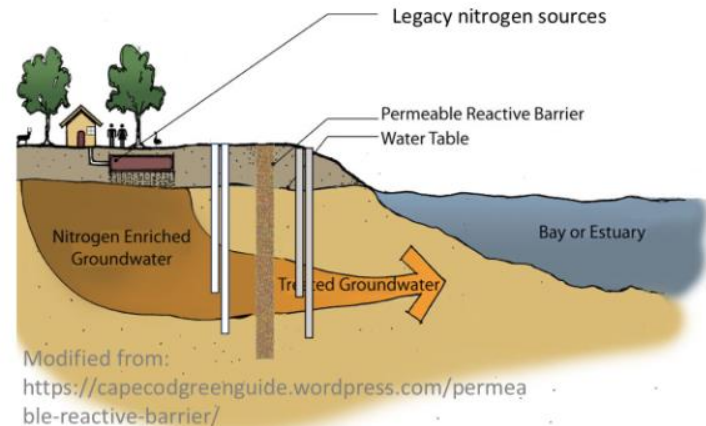
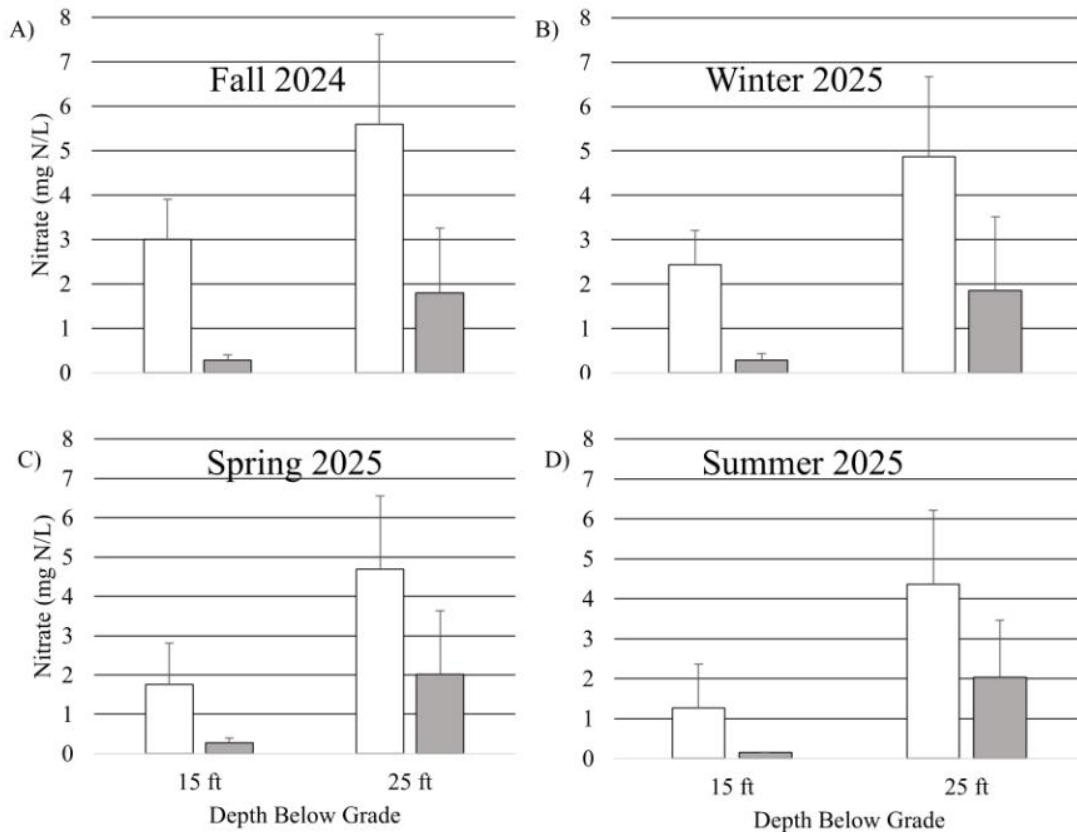
Data collected and analyzed by Cornell Cooperative Extension



- 1st year of quarterly monitoring
- Nitrate concentration upgradient of the PRB (untreated groundwater) is moderately elevated throughout the monitoring period
- Max=5.3 mg N/L in Spring 2024
- On average 83% nitrate removal
- Pilot PRB is functioning as expected & removing 40-105 lbs N as nitrate per year

2024-2025 Tanbark Creek Pilot PRB Long Term Performance Monitoring

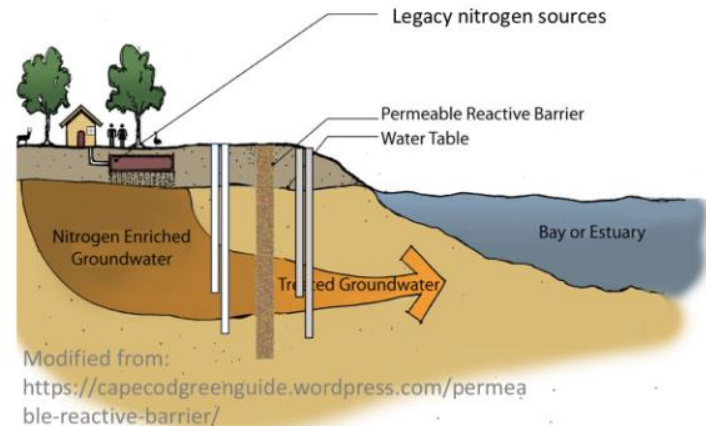
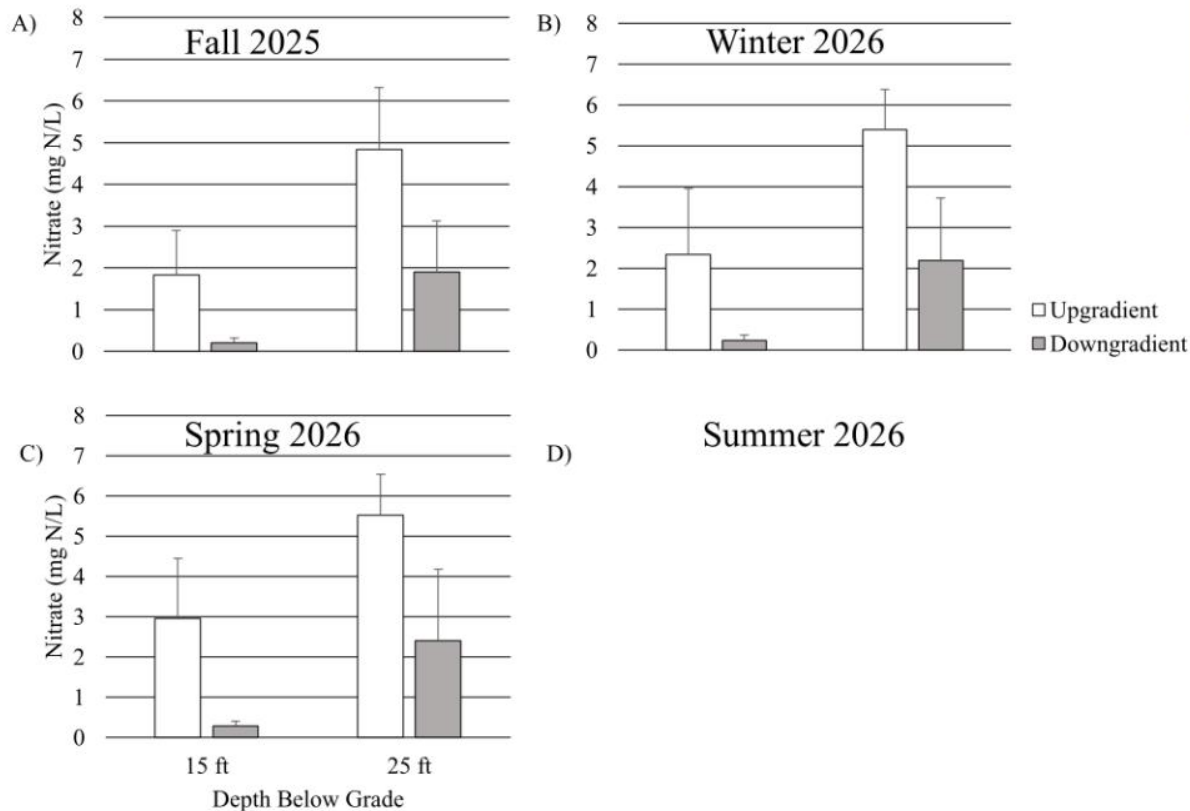
Data collected and analyzed by Cornell Cooperative Extension



- 2nd year of quarterly monitoring
- Nitrate concentration upgradient of the PRB is on average 1 mg N/L higher in year 2 than year 1
- Max=7.51 mg N/L in Fall 2024
- On average 72% nitrate removal
- Pilot PRB is functioning as expected & removing 48-126 lbs N as nitrate per year

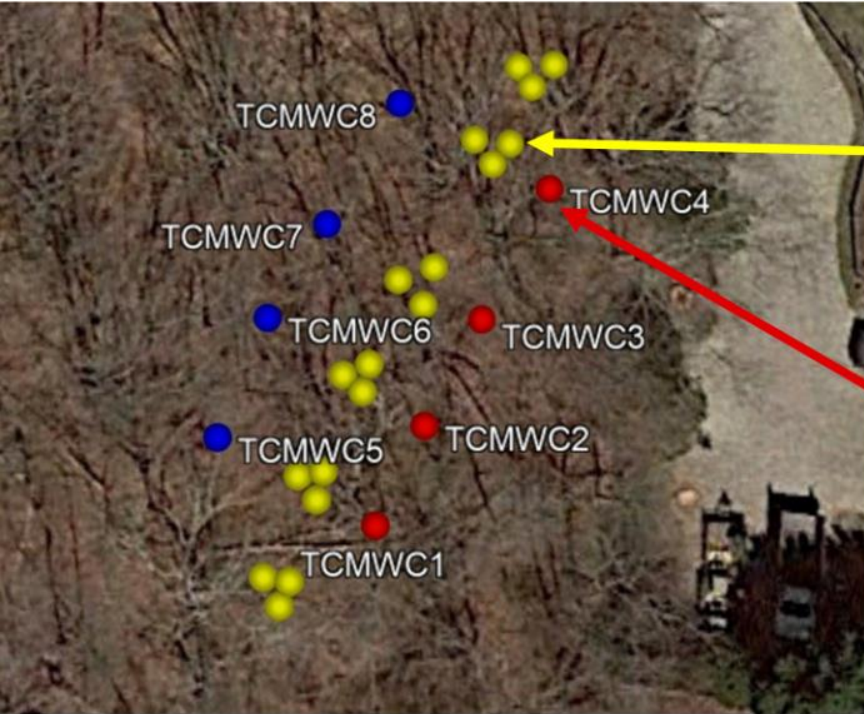
2025-2026 Tanbark Creek Pilot PRB Long Term Performance Monitoring

Data collected and analyzed by Cornell Cooperative Extension



- 75% complete in 3rd year of quarterly monitoring
- Nitrate concentration upgradient of the PRB is on average 1.3 mg N/L higher in year 3 than year 1
- Max=6.52 mg N/L in Winter 2026
- On average 69% nitrate removal
- Pilot PRB is functioning as expected & removing 50-133 lbs N as nitrate per year

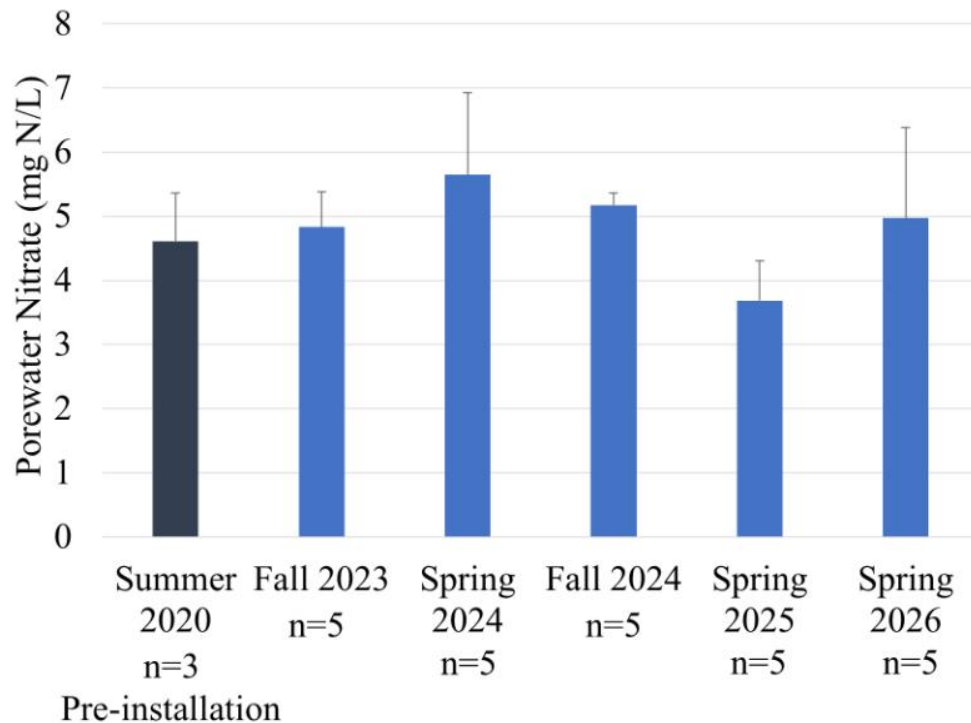
2. PRB Carbon Injection Longevity Monitoring



- Soil samples collected 20-25 ft below grade in Fall 2024
- Soil samples near upgradient monitoring wells <300 ug/g total organic carbon
- Soil samples within PRB 6610 ± 3557 ug/g total organic carbon
- Samples have significant color difference
 - Upgradient of the PRB the soil is light brown
 - Within PRB the soil is gray (iron-sulfide minerals)

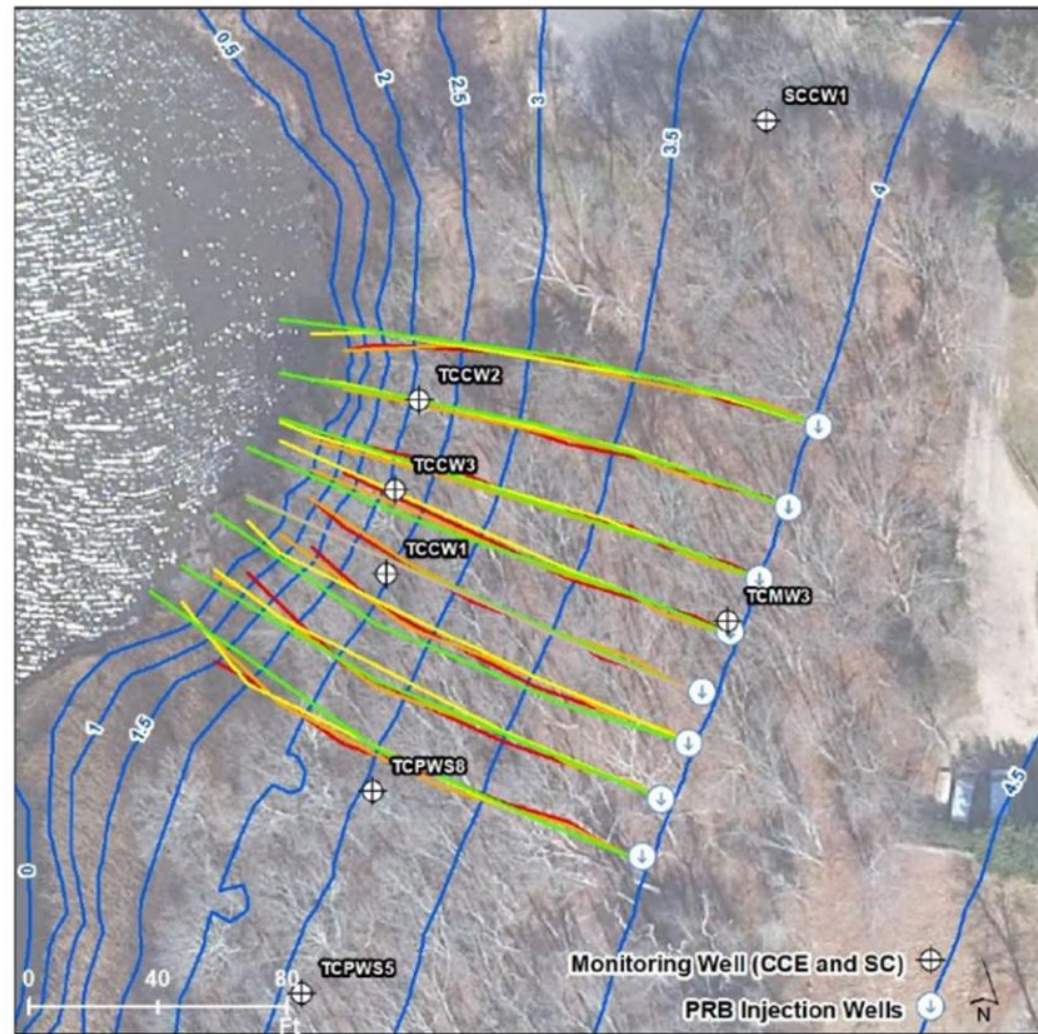


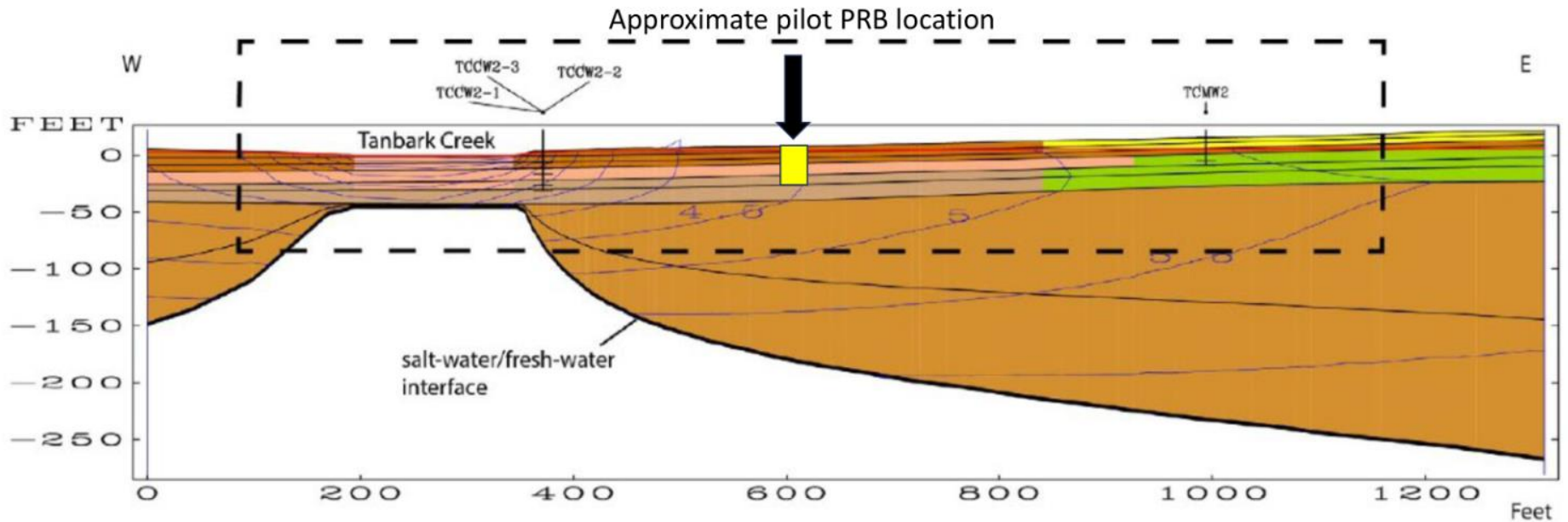
3. Tanbark Creek water quality monitoring – Coastline Evaluation Inc.



- No unusual deviations in field parameters including dissolved oxygen, pH and ORP in porewater or surface water
- The PRB is not negatively influencing nearby environmental conditions in the wetland or creek
- To the best of our knowledge, we are the first group to try to link PRB performance with porewater quality – this has never been done before and is groundbreaking research (pun intended)
- No clear trend in porewater nitrate
- Groundwater also contains other forms of N which can transform to nitrate downgradient of the PRB

- Figure from Town of East Hampton Basis of Design Report Conceptual (30%) Design by CDM Smith.
- Top view of injection field
- “Simulated particle tracks from the proposed PRB injection wells. Figure created using a 3D groundwater flow model to aid in the design of the injection PRB. Model was calibrated under transient conditions and reasonably represents the groundwater flow field. Red tracks were released at 0 ft; orange tracks at -10ft; yellow tracks at -20ft and green tracks at -30ft. ”
- Groundwater flow is perpendicular to the blue lines (modeled water table elevation contours)
- **The pilot was initially designed to be larger (8 injection clusters) but grant funding ultimately supported 6 injection clusters**





Town of East Hampton Basis of Design Report Conceptual (30%) Design; Feb. 23, 2022; Memorandum pg. 4

- Side view of aquifer
- The groundwater discharge zone in the cove downgradient of the pilot PRB is a focal point for groundwater and is a mixture of groundwater that is not only coming through the PRB but from beneath and around the pilot PRB.
- Essentially, the groundwater treated within the pilot PRB is approximately <20% of the total fresh groundwater column above the saltwater interface.

Is the pilot PRB working?

- YES nitrogen and additional analytes of interest confirm denitrification is occurring.
- The lbs N removed/year is largely determined by the upgradient nitrate concentrations and year 3 is on track to be highest lbs N removed.
- CDM Smith views the pilot PRB as highly successful.

What have we learned?

- The pilot was designed as a proof of concept and needs to be bigger to see a measurable decrease in porewater nitrate.
- A much deeper and wider water column with nitrogen rich (nitrate/ammonia/TKN) water is discharging into the cove.
- There is potential to expand either deeper or further south where very high >20 mg N/L nitrate concentrations were present during initial site characterization.
- The further away the PRB is from the shoreline, the more complicated it is to link inland PRB performance with porewater data.
- The setback distance of 150-200ft from shoreline was plenty of distance for the high flow conditions at this site.
- Thinking about N removal in terms of lbs N removed instead of % removal is more informative for comparisons.

2023-2026 Data Summary



Funding

Peconic Estuary Partnership

Town of East Hampton Natural Resources

Town of East Hampton Community Preservation Fund

NYS DEC

Cornell Cooperative Extension Team

Matthew Sclafani

Joseph Costanzo

Stephen Havens

Atticus Furjanic

Subcontractor Coastline Evaluation Inc.

Ron Paulsen, PG

Pat Murray

CDM Smith Engineers

Dan O'Rourke, PG

Kim Kaster, PE

Cannon Silver, PE

Mary Anne Taylor, PE

Thank you!

Questions?

- Barbaro, J.R., Belaval, M., Truslow, D.B., LeBlanc, D.R., Cambareri, T.C., and Michaud, S.C., 2019, Hydrologic site assessment for passive treatment of groundwater nitrogen with permeable reactive barriers, Cape Cod, Massachusetts: U.S. Geological Survey Scientific Investigations Report 2019–5047, 39 p., <https://doi.org/10.3133/sir20195047>
- Robertson, W. D., and J. A. Cherry. "In situ denitrification of septic-system nitrate using reactive porous media barriers: field trials." *Groundwater* 33.1 (1995): 99-111.
- Robertson, W. D., J. L. Vogan, and P. S. Lombardo. "Nitrate removal rates in a 15-year-old permeable reactive barrier treating septic system nitrate." *Groundwater Monitoring & Remediation* 28.3 (2008): 65-72.
- Schipper, L. A., Robertson, W. D., Gold, A. J., Jaynes, D. B., & Cameron, S. C. (2010). Denitrifying bioreactors—An approach for reducing nitrate loads to receiving waters. *Ecological engineering*, 36(11), 1532-1543.
- Graffam, M., Paulsen, R., & Volkenborn, N. (2020). Hydro-biogeochemical processes and nitrogen removal potential of a tidally influenced permeable reactive barrier behind a perforated marine bulkhead. *Ecological Engineering*, 155, 105933.

Year 2 Final Report Exhibit A Table 2: Results of Wilcoxon rank-sum tests

Season	W	p-value	Interpretation
Fall	6	0.006977	Significant difference
Winter	9	0.0172	Significant difference
Spring	9	0.01729	Significant difference
Summer	13	0.0486	Significant difference

All p-values were less than 0.05 indicating that nitrate concentrations are significantly lower at downgradient wells (treated water) compared to upgradient wells (untreated water) across all seasons.

PEP Project Updates

Microplastic Survey of the Peconic Estuary

Assess marine debris in the Peconic Estuary and develop plans to address problems that are found

Can we **trace the origins of microplastics in the Estuary in order to develop targeted management** plans to address this problem?

- 2024 & 2025 Sampling COMPLETE
- Presented full results to NYSDEC on August 12th
- Awaiting final report!



Stony Brook University
**School of Marine and
Atmospheric Sciences**

Aquaculture Impacts Phase 1 & 2

- **Phase 1 : complete!**
- **Phase 2: data collection/field studies completed!**
- Phase 2 final presentation in December 2026





LI Water Quality App!

- App launched in July
- Available only on iOS
- Looking for Android users to test the app
- Please email hannah.collins@stonybrook.edu to sign up



The PEP Long Island Beach and Water Quality App “LI Water Quality”

Water Quality Information

The PEP Long Island Water Quality App makes it easy to access water quality information, whether you're a beach lover, fisherman, bayman, swimmer, or someone looking for scientific information about Long Island's water quality conditions. All data collected adheres to strict monitoring protocols.

Water Quality Information displays:

- Coastal Beach Water Quality
- Water Quality Index
- PEP Continuous Water Quality Stations
- Suffolk County Peconic Estuary Stations
- NYS Shellfish Closures
- Harmful Algal Blooms

Peconic Estuary
Partnership

App Interface

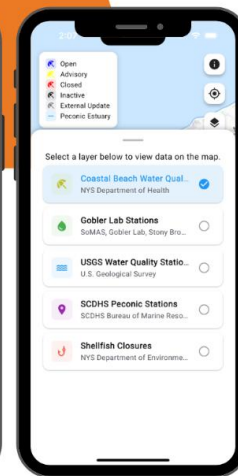
In the App Store, search for and download the “LI Water Quality” App

In the top left corner, the app shows the status of a given beach or waterbody.

To find specific water quality reports on the app:

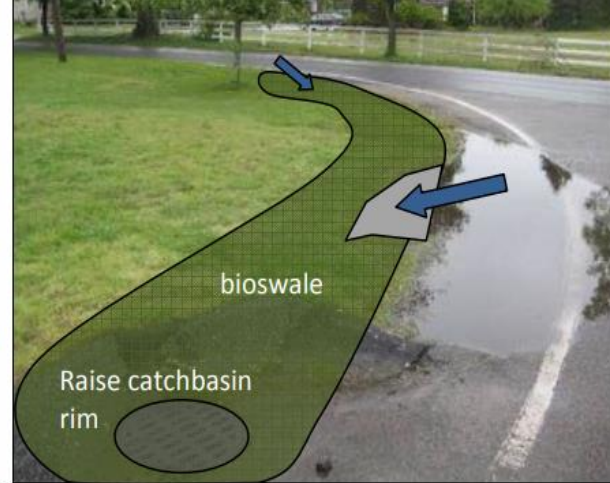
- Swipe up from the bottom of the list
- Select a map layer as listed below (e.g., Gobbler Lab Stations)
- Click on a site listed on the app
- Water quality information is listed for each respective site.

Scan the QR code to download the app!



East Hampton Stormwater Runoff Mitigation

- Plans from 2013 Accabonac Stormwater Management Plan
- **Ashawagh Hall:** In Progress
- **Lake Montauk:** identified priority area with CCOM; identifying sources causing issues in WQ surrounding Ditch Plains



Diadromous Fish eDNA Pilot Study

- Alewife & America Eel in the Peconic Estuary
- Partnered with NYSDEC (Began in April 2025; March to May 2026)
- Site Examples: Grangebel, Upper Mills, Woodhull
- Preliminary Results:
 - 1.) Grangebel fish passage worked well showing similar trends of river herring abundance above and below the fish passage
 - 2.) Byron Young had much higher signals below than above the fish passage but there were definitely fish getting over
 - 3.) Upper Mills was sampled above and below the weir. Alewife were not making it up over the weir (or if they are it's very few, or just remnants from predators, etc), but eel appeared to be able to move over the weir



Eelgrass Updates



PEP is working on a regional plan for eelgrass conservation

Creating an eelgrass management strategy that identifies criteria for the creation of eelgrass management areas under the NYS Eelgrass Protection Act

Working with East Coast NEPs regional seagrass strategy

- Working with NOAA to upload eelgrass maps to navigational charts.
- Educational signs at marinas
- Conservation Moorings - find areas for use
- SeagrassNET installation complete; monitoring to begin in August
- Seagrass workshop September 26th

SAVE THE DATE! Peconic Estuary Seagrass Workshop

~September 26th 2026~

Stony Brook University Marine Station
Southampton, NY

Hosted by the Peconic Estuary Partnership



Eelgrass Signage



BOATERS!



KNOW WHERE LOCAL EELGRASS BEDS ARE!

Scan the QR code to find your local Peconic eelgrass beds to avoid propeller scars and anchoring.

Seagrass beds are a critical nursery habitat for local species and are important for recreational and commercial fisherman.

For more information visit PeconicEstuary.org



- QR Code with map of local eelgrass beds so boaters can avoid propeller scars and anchoring
- Signs will be posted at marinas and boat ramps around the estuary
- Dimensions: 14 in by 10 in
- Additional sites? Let us know!



SeagrassNET Rapid Partners:

- Concerned Citizens of Montauk - Lake Montauk
- SOFO Sea Farmers & Springs School - Napeague State Park
- NYSDEC and Friends of Orient State Park- Orient Point, Southold
- Peconic Baykeeper- Cedar Point County Park
- **Monitoring began in July 2026**



2025 PEP Mini Grant



Peconic Estuary
Partnership

2025

MINI GRANT

PEP'S 2025 Mini-Grant Funding Opportunity in the Peconic Estuary Watershed to implement a project that assists in accomplishing PEP's 2020 CCMP goal of Clean Waters for Ecosystem Health and Safe Recreation.

Application Deadline:
November 15, 2025

PROPOSALS WILL BE
CONSIDERED UP TO
\$50,000 PER PROJECT.



SUBMIT APPLICATIONS AND QUESTIONS TO:

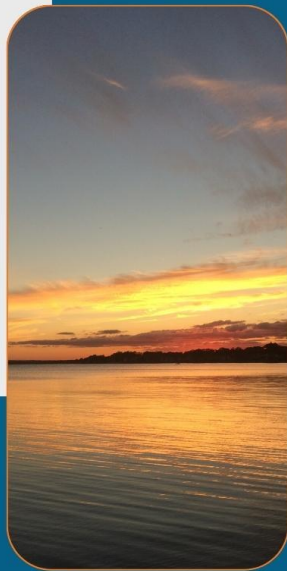
Valerie Virgona

PEP Outreach and Communication Manager
valerie.virgona@stonybrook.edu



For more info visit:

[www.peconicestuary.org
/projects/minigrant](http://www.peconicestuary.org/projects/minigrant)



2025 PEP Mini Grant

PEP CCMP Objective: Clean Waters for Ecosystem Health and Safe Recreation & Action 8 from the Strong Partnerships and Engagement section.

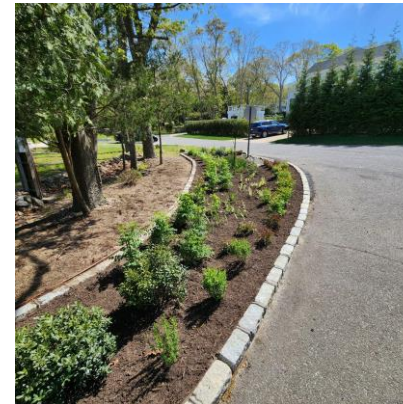
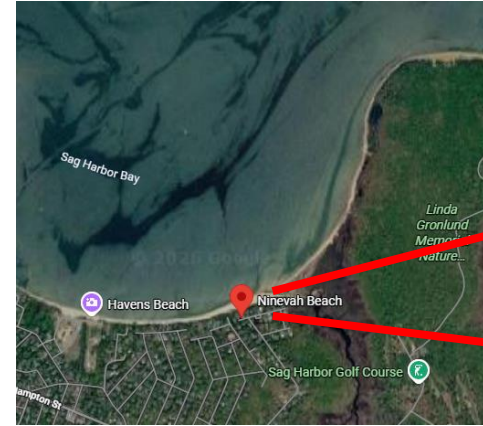
- Green Infrastructure Installation: Stormwater Abatement at the East End of Harding Terrace (NB-2) to Protect Little Northwest Creek - **Ninevah Beach Property Owners' Association (NBPOA)**
- Creating an on-farm weather monitoring network to improve agricultural Stewardship - **Cornell Cooperative Extension of Suffolk County, Agricultural Stewardship Program**
- Peconic River Litter Trap - **Peconic Baykeeper**

2025 PEP Mini Grant - Ninevah Beach Property Owner's Association (NBPOA)



Green Infrastructure Installation: Stormwater Abatement at the East End of Harding Terrace (NB-2) to Protect Little Northwest Creek

- Bio-infiltration rain garden installed to reduce pollution from stormwater reaching Little Northwest Creek and Sag Harbor Bay
- 625 square foot rain garden along the right-of-way and road end of Harding Terrace
- Replaced pavement on the road end with rain garden and reset catch basin so it acts as an overflow for large storms
- Native plants chosen to filter water, take up nutrients and stabilize soil



Outreach Events and Programs

- **International Coastal Cleanup Day, September 19**
 - Meschutt Beach
- **Septic Improvement Presentations**
 - Southampton:
 - Flanders: FRNCA - 8/20/25
 - Northsea: Northsea Citizens Advisory Committee - 9/16/25
 - Westhampton Beach Rotary Club - 1/13/26
 - Southampton Tuckahoe and Shinnecock Hills CAC: 5/7/26
 - East Quogue Civic: 3/28/26
 - Noyac Civic Council: 5/13/26
 - Shelter Island:
 - Shelter Island Water Quality Advisory Board, Menantic Creek keepers, Menantic Peninsula Association - 9/4/25
 - Shelter Island Homeowners Association - 6/20/26
 - Southold:
 - Southold Peconic Civic Association - 9/6/25
 - **Mattituck Laurel Civic Association Program 9/28/26 6:30-8pm 11280 Peconic Bay Blvd, Mattituck, NY (UPCOMING!)**
 - East Hampton
 - Montauk: Montauk Citizens Advisory Committee with CCOM - 9/8/25
 - Accabonac Protection Committee - 9/21/15
 - Riverhead:
 - Greater Jamesport Civic Association - 10/18/25

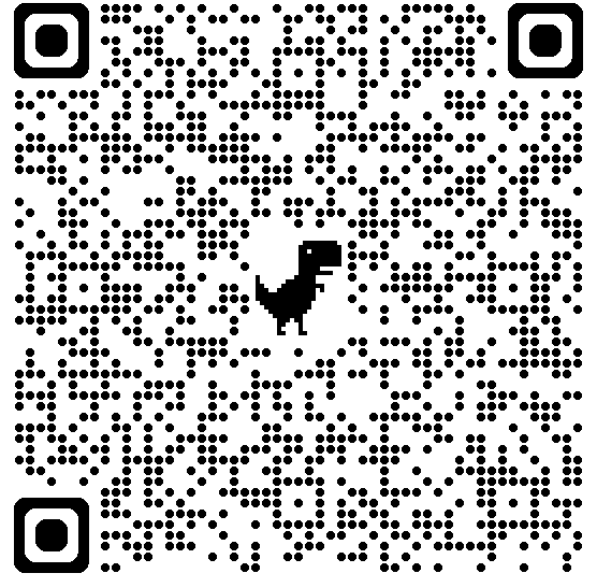
Outreach Events and Programs (Continued)



- **Celebration of the Big Duck: October 3**
- **Celebration of the Long Pond Greenbelt: October 10**
- **Hampton Bays Public Library Community Care Day: October 17**
- **A Day in the Life of the Peconic Estuary, October 23**
- **Riverhead Repair Cafe, October 24**
- **Community Day at Broad Cove with PLT, November 7**

REMINDER: Ongoing projects & Map ID.

- **Voting organizations : Add projects within PE Boundary**
 - Red= Not initiated
 - Yellow= In progress
 - Green= Done
 - Light Green = Continuous monitoring



<https://earth.google.com/earth/d/1MWCbWLeptEv6gC3Qfcm1F1Z8GgOSNkxA?usp=sharing>

12:00 Committees Discussions, Public Portic

The Tracking System:

<https://portal.gss.stonybrook.edu/ccmp/>

The Data Hub:

<https://data.gss.stonybrook.edu/organization/pep>

2026 TAC Committee Meeting Dates:

- ~~— February 4, 2026~~
- ~~— April 8, 2026~~
- ~~— August 19, 2026 *JOINT MEETING*~~
- November 4, 2026



ts



2026 NRSC Committee Meeting Dates:

- ~~— February 4, 2026~~
- ~~— August 19, 2026 *JOINT MEETING*~~

THANK YOU!