FY24 WORKPLAN AND BUDGET EPA Grant #: CE- 96247001-1



Applicant: Stony Brook Research Foundation

Submitted by: PEP Management Conference

> Start Date of Grant October 1, 2024

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Approved by the PEP Policy Committee May 15, 2024

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Peconic Estuary Partnership FY24 Workplan & Budget

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I. INTRODUCTION

Peconic Estuary Partnership

The Peconic Estuary is one of 28 estuaries in the country designated by U.S. Environmental Protection Agency as an "estuary of national significance" under Section 320 of the Federal Clean Water Act. The National Estuary Program (NEP) was established to protect and restore nationally significant estuaries threatened or impaired by pollution, development, and overuse. The Peconic Estuary was formally accepted as part of the NEP in 1992. Officially commenced in 1993, the Peconic Estuary Program includes numerous stakeholders, representing citizen and environmental groups, businesses and industries, academic institutions, and local, county, state and federal governments. The EPA, New York State Department of Environmental Conservation (NYSDEC) and the Suffolk County Department of Health Services (SCDHS) are the sponsoring government agencies for the program. Stony Brook University is the host entity and this grant commences October 1, 2024.

The PEP 2020 Comprehensive Conservation Management Plan (CCMP) guides the priorities of the organization and as such all projects and plans detailed in this workplan relate directly to the actions established to achieve our four goals: strong partnerships and engagement, clean waters, resilient communities prepared for climate change, and a healthy ecosystem with abundant, diverse wildlife.

Overall Funding Sources

The core FY24 budget reflects the following sources of funding:

EPA FY24 Base Funding:	\$850,000.00*
Non-Federal Match:	\$850,000.00**
Total:	\$1,700,000.00

Resources Requested

The total Section 320 funds requested in this NEP grant to Stony Brook University is \$635,000 which will be matched at the required 1:1 rate, making the full budget of the Stony Brook award \$1,270,000.

*EPA FY24 Base funding will be provided to Suffolk County Department of Health Services (SCDHS) in the amount of \$215,000 which will be matched at the required 1:1 rate, making the full budget of the Suffolk County award \$430,000. This award is submitted as a separate application.

**The non-Federal match is provided by NYSDEC, The Town of Southampton, and SCDHS. New York State, Suffolk County, and other partners are expected to provide significant support above and beyond the committed match in the budget table in support of Peconic Estuary Partnership goals and objectives.

II. SUMMARY OF FY23 ACCOMPLISHMENTS

Operational

During this period PEP hired a full-time Outreach Assistant. This role is funded using Bipartisan Infrastructure Law (BIL) funds. The main function of this role is to support outreach for the program office with a focus on projects accomplished with BIL funding.

- PEP Equity Strategy Approved by Management Conference
- PEP Five Year Plan for BIL Approved (with EPA HQ Concurrence)
- PEP Habitat and Wildlife Monitoring Plan final comments
- CCMP Progress Tracking System complete: <u>https://portal.gss.stonybrook.edu/ccmp/</u>
- PEP Program Evaluation The PE team has concluded that the PEP continues to make significant progress in implementing its CCMP and has rated the PEP as Proficient in the 2023 PE. The PEP will receive continued support from EPA.
- <u>Policy Committee</u>, <u>Management Committee</u>, and <u>Technical Advisory Committee</u> minutes are available on the PEP website.

Local Planning and Policy

PEP continues to play an active role in regional planning for key issues. PEP is a member of the NYS <u>Ocean</u> <u>Acidification Task Force</u> and co-authored the <u>final report</u> for the State of New York. PEP is an active participant in the Building Eelgrass Resiliency Regional Workshop, a member of the <u>Suffolk County Coastal</u> <u>Resilience and Sea Level Rise Task Force</u> and the <u>Suffolk County Pollinator Pathway Taskforce</u>, and a member of the New York Marine Shellfish Restoration Plan Workgroup – a Pew Charitable Trust and Nature Conservancy initiative to create a roadmap for shellfish restoration in New York. PEP is also coordinating with other National Estuary Programs, the National Parks Service, and EPA on a regional effort to protect and restore seagrass.

Monitoring and Implementation

Water Quality

PEP supports the SCDHS and USGS water quality monitoring systems and provides temporal and spatial sampling of the water quality conditions within the estuary. Data is publicly available in the following sites:

- Suffolk County Department of Health Service Discrete Monitoring:
 - SCDHS Surface Water Quality Data
 - SCDHS Beach Monitoring data
- USGS Continuous Water Quality Monitoring
 - <u>Peconic River Station</u>
 - Shelter Island Station
 - Orient Harbor Station
- National Atmospheric Deposition Program
 - <u>National Trends Network site NY96</u> at Cedar Beach, Southold, NY
 - Mercury Deposition Network site NY96 at Cedar Beach, Southold, NY
 - <u>Ammonia Monitoring Network site NY96</u> at Cedar Beach, Southold, NY

PEP Annual Water Quality Report

The Peconic Estuary <u>Annual Water Quality Report</u> tracks whether we are meeting our identified water quality targets to achieve our goals for Peconic Estuary waters. Clean water supports fish, shellfish, and wildlife ecosystem health, provides for safe recreation in and on the water, and seafood that is safe for

consumption. The Peconic Estuary Water Quality Report enables PEP to track progress on meeting our CCMP goal of Clean Waters for Ecosystem Health and SafeRecreation.

PEP Solute Transport Model

PEP hosted stakeholder update meetings on the <u>USGS Solute Transport Model</u> on October 6th and November 17th of 2024. The model, supporting documents and online platform will be released in 2024. Once the model is complete it can then be applied to run a limited set of scenarios to estimate resulting nitrogen loading rates over time.

HABs in PEP Priority Embayments

PEP continued its partnership with the Gobler Lab at Stony Brook University and is working to develop nitrogen reduction end points for HABs.

Eelgrass

Due to Canadian wildfires and the resulting air quality in New York, the planned comprehensive **aerial survey of eelgrass in the Peconic Estuary** was not carried out in June 2023. This work will be carried in in June 2024. During FY23, PEP began working with eelgrass experts from across the North East to develop a regional approach to eelgrass protection. The Technical Advisory Committee agreed to change the method of annual survey and the Quality Assurance Project Plan is complete and approved.

Aquatic Connectivity Milestones Achieved

In FY23 PEP led projects that opened over 100 acres of diadromous fish habitat in the Peconic system.

After the completion of the Byron Young fish pass in FY22, the FY23 time period has seen record numbers of alewife in the Peconic River system. PEP continues to work with partners at Suffolk County Community College to monitor the alewife population at the new fish pass and the historical site in Grangebel Park in Riverhead. Work has been ongoing with PEP, Suffolk County, the Long Island Power Authority, and the Town of Riverhead to complete a Land Use Agreement to pass the one barrier remaining on the main stem of the Peconic River at **Upper Mills Dam**. Engineering designs are complete and permits have been issued for this site and PEP is facilitating the land-use agreement to allow for the construction of the fish pass at this site.

North Sea/Alewife Creek: Southampton's Alewife Creek is currently recognized as Long Island's largest remaining river herring spawning run with close to 75,000 river herring when last formally assessed in 2009. This run concludes at Big Fresh Pond, 64 acres of ideal spawning habitat surrounded by an extensively protected watershed. The culvert at Noyack Road was replaced with a larger, more appropriate culvert to allow alewife passage in March 2024. The culvert at North Sea Road is still a challenge for passage.

Big Reed Pond: Big Reed Pond is a 45-acre freshwater pond located within Montauk County Park with extensive high-quality freshwater wetlands and surrounding woodlands. PEP worked with Suffolk County to secure Capital funds d to secure engineering designs and replace the culvert that leads to Big Reed Pond and work. As of March 2024, Suffolk County completed the needed culvert replacement to connect Lake Montauk and Big Reed Pond for fish and eel passage.

Wetland Project Progress

In FY23, PEP is planning and implementing over 90 acres of wetland restoration.

PEP has continued its partnership with stakeholders of East Hampton Town's **Accabonac Harbor**. PEP is in contract to work with representatives of SMARTeams (Salt Marsh Adaptation & Resiliency Teams) to **restore over 30** acres of salt marsh in Accabonac Harbor. Outreach on this project has continued as PEP has participated in Accabonac Protection Committee meetings and assisted in field work led by US Fish and Wildlife Service alongside The Nature Conservancy to survey for Saltmarsh Sparrow presence in the area, an indicator species for wetland health. The **Paul Stoutenburgh Habitat Restoration Project** aims to **restore six acres of salt marsh**. To date, this project has completed an assessment of the hydrology of the southwest portion of the Paul Stoutenburgh Preserve and presented findings in stakeholder meetings and Southold Town Trustees. These hydrological plans and alternatives will be used for the Town Engineering Department to make data-driven decisions for implementation on their property. Engineering plans are in process of being submitted for permits to upgrade and right size the culvert to hydrologically repair flow and restore wetland area. At Indian Island County Park Wetland Complex PEP is supporting the salt marsh restoration of 56 acres on Terry's Creek for habitat and water quality improvement. This wetland restoration is in progress.

Shoreline Adaptation Initiative & Work Group: In partnership with New York Sea Grant (NYSG), PEP program office is co-chairing an innovative and collaborative initiative devoted to moving Long Island forward in the realm of living shoreline implementation and nature-based adaptations. This work has successfully held a series of 1:1 information gathering meetings with town planning departments, elected officials, and permitting entities. All participants were brought together in a workshop with representation from the five east end town permitting entities. Workshop outcomes included the creation of a "permitting roadmap" of local government processes that also identified hurdles and experiences. This project also included partnerships with Stony Brook University's Sustainability students who worked to assess town code needs and the applicability of resources such as the New York State Department of State's Model Local Law document. PEP and Sea Grant are further working with NYS Department of Environmental Conservation to strategize the leveraging of Climate Smart Community grant funding to local municipalities, as well as, foster connections with environmental contractors and homeowners facing shoreline adaptation decisions. This project also included the 2023 Marine Conservation Policy Fellow who created an educational story map and flowchart to document the findings of the Shoreline Adaptation Initiative and Shoreline Decision Workgroup. These deliverables were presented to the PEPTAC, and presented to local town government regulating body. This work will be part of the foundation of outreach materials to be created for the initiative and the first steps to the process of finding funding for and designing a Peconic - specific GIS model for shoreline adaptation potential strategy options for homeowners, consultants and local governments.

PEP Mini Grant Program: The program staff has successfully advertised, received applications, formed a review committee, and scored applications for the 2023 Mini Grant Program. winners were announced formally at the May 11th, PEP Biennial conference, as follows:

Shinnecock Indian Nation Kelp Farm Pilot Project: Program office worked closely with Shinnecock Environmental department to assist in the development of this mini-grant project. A scope of work and budget are currently being finalized for contract execution. Implementation includes bioextraction efforts in area adjacent to Shinnecock land in southern Great Peconic Bay and Heady Creek.

Seatuck: This project accomplished the following tasks

- Identified interests and engaged east end towns in oyster shell recovery and recycling program
- East Hampton's, town owned, shellfish hatchery fully engaged and signed-on with Half Shells for Habitat Partnership in shell recycling.
- Engaged the Peconic Baykeeper to help organize shell collection in the town of Southampton.
- Discussions with Southampton Town Waste Management Department have identified "shell storage space" as an obstacle to moving forward.
- There is a small recycling effort in Southold that we are working toward incorporating into a partnership with Half Shells for Habitat.

<u>Peconic Baykeeper:</u> Contracts were executed for this mini-grant to support Peconic Baykeeper's community science and outreach project, Project R.I.S.E. (Recording Inundation Surrounding the Estuary) to establish a community science tool called a Chronolog, (a 2x4 post/platform with a phone cradle, which aids participants in capturing the same photo scene each time) to foster public awareness and engagement about the present and future threats in the Peconic Estuary Watershed. Locations for the 15 Chronolog cradles have been finalized. Installation comingsoon!

<u>Cornell Cooperative Extension:</u> Contracts were executed for this mini grant that looks to satellite tagging horseshoe crabs at key locations within the Peconic Estuary but no implementation has been accomplished thus far.

Outreach

Community Science Long Island Webinar Series Winter 2023-2024

PEP has partnered with Long Island Sound Study, New York Sea Grant, South Shore Estuary Reserve, and the Seatuck Environmental Association to host the Community Science Webinar Series. Community Science Long Island is an outreach series aimed at raising awareness for citizen science opportunities on Long Island and the importance of those projects in supporting research and local environmental management efforts. This season, the group has organized corresponding in-person training events to further engage and train volunteers in the survey process. PEP organized the River Herring and Eel Survey Webinar on February 7, 2024, with a corresponding in-person training event at the Byron Young Fish Passage at Woodhull Dam on March 23, 2024. (<u>https://seatuck.org/community-science-webinars/</u>).

Winter Walk Series with PEP and Peconic Baykeeper

The PEP and Peconic Baykeeper hosted our second annual Winter Walk Series. Nature walks were held on alternating Friday and Saturdays, December 2023 through March 2024, at 5 parks/locations throughout the watershed.

PEP Citizens' Advisory Committee Albany Education Day

PEP CAC held an Albany Education Day in February 2024. The purpose of this trip was to bring passionate stakeholders to meet with NYS representatives in order to discuss the importance of the Peconic Estuary and Watershed, and educate them on the environment within our watershed.

Nitrogen Reduction Outreach

PEP continues outreach to the public to educate them on septic improvement, and encourage them to use available funding to upgrade their septic systems. PEP held an outreach event in East Hampton on December 13, 2023, and took part in a septic upgrade panel hosted by Peconic Baykeeper on May 8,

2024. Additionally, PEP tabled and gave a talk about green infrastructure, native plants, and fertilizer reduction at an Earth Day Event hosted by the Accabonac Protection Committee on April 20, 2024.

A Day in the Life of the Peconic Estuary

PEP held an annual ADITL event on October 23, 2023 with the Ross School at Cedar Beach in East Hampton. Students use hands-on field techniques to describe their sites, catch fish in nets, collect water and invertebrate samples, and examine biodiversity and water chemistry parameters. Beyond just a field trip, a "Day in the Life" allows students to collect real-time information about their communities' environment and natural resources and explore how their piece of the river, the snapshot of their site fits into the larger ecosystem.

Earth Day Alewife Walk with PEP and PBK

On April 5, 2024, PEP partnered with Peconic Baykeeper for our annual event celebrating Earth Day and Long Island Migratory Fish Week, for a nature walk in Southampton's Alewife Creek. Educational components included history of these threatened and ecologically important fish, current monitoring efforts, and restoration efforts.

Homeowner Rewards Program

The Peconic Estuary Partnership provides a unique opportunity for people who live within the Peconic Estuary watershed. The PEP will provide financial rewards for homeowners who remove turf and pavement, and add green alternatives to their properties that benefit the environment. Homeowners can earn up to \$500 to offset the expense of installing green infrastructure on their properties including rain barrels, rain gardens, and native plant gardens. PEP's Homeowner Rewards Program opened for applications on March 15, 2023. In FY23, PEP funded the installation of 15,349 ft² of rain and native plant gardens in the watershed

River Herring and Eel Survey

The annual Long Island Volunteer River Herring & Eel Survey is one of Long Island's longest running community science projects. Started in 2006, the survey engages community volunteer scientists to monitor runs of migratory river herring and American eels in rivers and streams across Long Island. The survey, organized by PEP, Seatuck, the Long Island Sound Study, and South Shore Estuary Reserve – aims to find the waterways where "remnant" runs of river herring still exist and then to monitor the size and timing of those runs. This information is vital to improve access and restore local populations of these ecologically important fish. (https://seatuck.org/volunteer-river-herring-survey/).

Long Island Wildlife Monitoring Network

PEP continued the highly successful citizen science partnership between Seatuck Environmental and PEP, the *Long Island Wildlife Monitoring Network* (https://wildlifemonitoringnetworkli.org/). This initiative has held training, workshops, and led citizen science with partners throughout the PEP watershed. PEP initiated the creation of the Long Island Wildlife Monitoring Network in 2020 to make it easier for partners to collaborate and avoid overlap, and for the public to become aware of all the efforts going on around Long Island and to get involved with multiple citizen science programs. With this brand and central website, citizen participation is increased, data collection centralized, and partner collaboration enhanced.

Long Island Estuary Program Coordination

In collaboration with the New York Long Island Nitrogen Action Plan (LINAP), PEP has partnered on an island-wide estuary program collaborated outreach effort. This includes LINAP, the Long Island Sound

Study, The New York State South Shore Estuary Reserve, and PEP. Aligned outreach messaging targeted to nitrogen reduction on Long Island has led to a greater understanding of this issue. Through this partnership we are working to replicate PEP's long-running Homeowner Rewards Program (<u>https://www.peconicestuary.org/what-you-can-do/homeowner-rewards-program/</u>) into the other watersheds on Long Island. This partnership will continue through the next year as we move this initiative forward.

Peconic "I-Fish" Program

In October 2023, PEP facilitated the NYS Department of Environmental Conservation's <u>I-Fish NY program</u> and partnered with NYSDEC and Slow Food East End carry out a fishing event for Hispanic communities in the Peconic watershed. This event provided marine education and a 'hands on' fishing experience with lunch for our Spanish speaking communities. Slow Food East End provided lunch for all participants.

III. FY24 WORKPLAN

CCMP Goals

Strong Partnerships, Resilient Communities, Clean Water, and a Healthy Ecosystem are the four pillars of our foundation, The CCMP lays out 8 Objectives and 35 Actions that will guide PEP and our partners to address the challenges facing our watershed.

Budget and Staff Elements

Program Office Staff

The following outlines FY24 §320 budget requests to support the Peconic Estuary Partnership Office to implement the CCMP. Costs include salary and fringe.

Program Office Staff Total Cost: \$355,317

Executive Director

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 250S, Riverhead, NY

Responsibilities: Provides overall leadership to the program office, management and administration to the Program on behalf of the Management Conference.

Grants Manager

Location: School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY

Responsibilities: Manage Federal and Local Government Grants, track deliverables, invoices, and subawards.

Natural Resources Program Manager

Location: New York State Department of Environmental Conservation, Marine Resources Headquarters 123 Kings Park Blvd. (Nissequogue River State Park) Kings Park, NY

Responsibilities: Leads existing and develops new natural resource related projects in the watershed and acts as support for a variety of other projects carried out by the program office. Works closely with NYS DEC to coordinate habitat and wildlife related projects and PEP administrative tasks.

Outreach and Communication Manager

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 250S, Riverhead, NY

Responsibilities: Leads existing and develops new outreach and education activities for PEP focusing on the four goals laid out in the 2020 CCMP. Works closely with Stony Brook Research Foundation to coordinate activities in support of PEP.

Outreach Assistant (Nutrient Reduction) - Part-time -Local Government Funds

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 250S, Riverhead, NY

Responsibilities: Assist the Outreach Coordinator with communication around nutrient reduction. Help to coordinate civic engagement about septic improvement and fertilizer use. Develop materials for

distribution specifically focused on septic improvement and fertilizer reduction. Develop social media campaigns and update website regularly.

Coastal Resilience and Communities Coordinator

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 250S, Riverhead, NY

Responsibilities: Coordinates PEP watershed resilience initiatives including wetland restoration projects, and builds partnerships with the PEP local communities to foster a stronger understanding of the challenges we face related to climate change impacts and assist local governments in finding solutions.

Budget Summary

	FY24 Request	Notes
Personnel (salary & fringe)	\$355,317	See Budget Details on page 42
Travel	\$15,000	See Travel section on page 41
Equipment	\$0	
Supplies	\$10,112	This includes \$5,862 for general PEP supplies
		including field gear, equipment for out of office
		hybrid meetings, and office furniture and other
		needs AND \$4,250 for supplies dedicated to the
		two PEP rain garden including plant material, soil,
		shovels, gloves, etc
Contract (consultant services)	\$35,000	Staff Development
Other	\$97,000	Includes costs for printing & production, website
		development and services, advertising,
		Homeowner Rewards, and Training. Sub-Awards
		include: Annual Water Quality Report, and the
		Center for Advocacy, Support, and Transformation
		(does not include \$5,200 Indirect for CAST, which
		is included in total Indirect below). See Budget
		details on page 37 for all items.
Equipment	\$0	
Total Direct	\$512,429	
Indirect (26%)	\$122,571	IDC on direct charges @26% and on contracts is
		26% on the first \$25,000
Total EPA §320 Funds Request	\$635,000	
NYSDEC Match	\$500,000	
East End Town Match	\$135,000	
TOTAL EPA §320 AWARD	\$1,270,000	
Suffolk County EPA §320 Funds	\$215,000	These funds will be detailed on the Suffolk County
Request		Grant Application for FY24
Suffolk County Match	\$215,000	This match will be detailed on the Suffolk County
		Grant Application for FY24
Total Project Cost	1,700,000	

Table 1: PEP Budget Summary (Budget Details listed on page 42)

FY24 Workplan

This workplan includes all projects which PEP plans to be involved with in the coming fiscal year. Since FY23 and FY24 projects that are funded under the Bipartisan Infrastructure Law (BIL) will be included in this workplan but no details will be provided. Full details of the BIL projects will be included in the BIL workplans (BIL22, BIL23, etc) and approved by the PEP Management Conference. Each of these projects supports PEP's 2020 CCMP, which also highlights PEP's role as an active partner with other government agencies and nonprofits working in the Peconic. PEP has an approved Equity Strategy and Five-Year Plan related solely to the BIL funds for EPA approval.

Our continued focus on partnership results in some of PEP's staff time focusing on supporting projects directed and funded by partners. In these cases, PEP staff is responsible for providing technical expertise, coordinating projects, and facilitation of collaboration as needed; their responsibilities support the ultimate project outcomes but can be accomplished even if the project does not move forward.

New FY24 §320 projects are identified in Table 2 with funding sources clarified. Ongoing FY23 §320 projects that use previous years' (FY19-FY23) funding and staff time for FY24 are identified in Table 3. The projects approved by the PEP Management Conference to be funded with the BIL funding are identified in Table 4; while these funds will be applied for and tracked under a separate agreement with EPA, their nomination and approval follows the same process as all PEP projects and are therefore listed in our annual workplan.

Project	CCMP Action	Primary Funding Body	PEP Role	Funding requested
				from FY24 §320 award
PEP Outreach	Actions 6,7,8,&9	EPA/Local Government	Lead	Staff Time
Water Quality Report	Actions 17	EPA	Co-Lead	\$35,000
CAST – Pollinator & Native Plant Garden and Education		EPA	Lead	\$20,000
Staff Development& Leadership Training	Objective A	EPA	Lead	\$35,000
Ashwagh Hall Storm Water Management	Action 18	Local Government (\$134,000)	Lead	Staff Time
Sea Turtle – SAV Interaction		Local Government (\$73,599)	NYMRS	Staff Time
Homeowner Rewards		EPA	Lead	\$15,000

Table 2: Summary of New Projects (FY24) and CCMP Actions

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Non-Point Source	Action 18	Local Government (\$10,000)	Lead	Staff time
reduction-Green				
Infrastructure Community				
Rain Gardens				
Three Mile Harbor PRB	Action 18	NEW (\$50,000 Local	CCE/EH Lead	Staff Time
Monitoring at Tanbark		Government)		
Creek-year 2		On-going Local Government		
		(\$50,132) for year 1		
HABs Priority Project	Action 19	NYS \$120,000 (New)	Co-Lead	Staff Time
		\$110,000 (Local		
		Government)on-going		
Alewife Monitoring-	Action 29	NYS \$10,000 – New	SCCC Lead	Staff Time
Woodhull and Grangebel		NYS \$10,000 (on-going)		
CCMP Aligned Fellowship	All	New FY24 MCP (EPA)	Co-Lead with	\$6,000
Project		Ongoing (Local Government	Stony Brook	
-		\$6,000)		
Shoreline Adaptation –	Goal:	NYS (\$124,000)	Co-Lead with	Staff Time
Phase II	Resilient		Sea Grant	
	Communities			
Continuous Water Quality	Action 16 &	NYS (\$173,500)	PEP/USGS/NYS	Staff Time
Monitoring (USGS)	18			
MARCO – Mid-Atlantic		none	MARCO	Staff Time
Carbon Project				
Shoreline Adaptation	Goal:	Local Government \$10,000	Co-Lead with	Staff Time
Workshops	Resilient		Sea Grant	
	Communities			
		•	•	

Table 3: Summary o	Ongoing projects and CCMP Actions
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Description	CCMP Action	Primary Funding Body	PEP Role	Funding requested from previous §320 award
Microplastics in the Peconic Estuary	Action 22	NYS (\$120,744); EEEEI (\$75,000)	Stony Brook Lead-PEP Support	Staff Time
SAV Historical Data Compilation and Story Map	Action 12 & 30	Local Government FY23 \$32,038	PEP Lead / Stony Brook / CCE	Staff Time
Aquaculture Impacts	Action 26	NYS EPF FY22 (\$150,505) + NYS EPF FY23 \$150,000	Co-Lead	Staff Time
Peconic SAV Coordination and Strategy Development	Action 30	Local Governments FY23 \$85,000	PEP, NYSDEC, Dr Lefcheck	Staff Time
Wildlife Conservation Initiative (Otter Strategy and Horseshoe Crab Plan facilitation)	Action 33	Wildlife Conservation Initiative (Otter Strategy and Horseshoe Crab Plan facilitation)	Wildlife Conservation Initiative (Otter Strategy and Horseshoe Crab Plan facilitation)	Wildlife Conservation Initiative (Otter Strategy and Horseshoe Crab Plan facilitation)
Horseshoe Crab Habitat Site Suitability Review – Bulkhead and Revetment Groundtruthing	Action 33 & 34	NYS \$51,500 (FY23)	CCE Lead	Staff Time
Eelpass Installation at Bridal Falls- Grangebel	Action 29	Local Governments \$1,966 (FY23)	PEP-Seatuck	Staff Time
CCMP Continuous Tracking and GIS needs		EPA	Co-Lead with Stony Brook	\$12,000
Communication Strategy	Actions 6,7,8 &9	EEEEI (FY23) \$80,000	Lead	Staff Time
PEP Outreach	Actions 6,7,8,&9		Lead	Staff Time
Mini-Grant FY22		EPA FY22 (\$97,964); Loca Governments FY22 (\$20,896)		Staff Time
Mini-Grant FY23	Goal: Clean Water	EPA; Local Government (\$31,500)	Multiple-PEP Lead	\$94,500
Natural Shoreline and Climate Outreach Program (previously reffered to as "Living Shoreline Stakeholder Education"	r	\$110,311; EPA (FY22 \$15,278); NYS(FY19 \$46,742; FY21 \$40,291); Local Government (FY22 \$8,000)		
Eelgrass Aerial Flyover	Action 12 & 30	NYS (FY19) \$130,000;	PE Co-Lead	Staff Time

Paul Stoutenburgh Habitat Restoration	Action 31	SC 2017 Capital Budget: \$100,000	Lead	Staff Time
Complete Construction of Indian Island Wetland Restoration Project	Action 31	NYSDEC WQIP/AHR Grant FY00 Grant), Suffolk County	Project Coordinator	PEP FY21 and FY22 \$60,000 (Suffolk County Award
Facilitate Narrow River Wetland Restoration Project	Action 31	Ducks Unlimited, Town Southold, NYDEC	Partner	Staff TIme
Continue to distribute information and tools developed in the CLPS and CRA to municipalities and work with the East End Towns to implement climate resiliency actions.		EPA; Local Governments	Lead	Staff time
Accabonac Harbor Saltmarsh Complex Restoration	Action 31	SC Capital budget total \$150,000 (SC Capital 2022 budget: \$100,000; SC Capital budget 2018 \$50,000)		Staff Time
Continuous Water Quality Monitoring (USGS)	Action 16 & 18	NYS (\$164,504); Suffolk County (\$150,000); USGS	Co-Lead	None
Water Quality Monitoring Collaborative	Action 17	EPA	Lead	Staff time
LINAP	Action 17	NYSDEC	Supporting partner	Staff time
Peconic Estuary Solute Transport Model	Action 17		Supporting partner	Staff time
Subwatershed Plan	Action 18		Supporting partner	Staff time
Upper Mills Fish Pass – Land Use Agreement	Action 29	EPA	Lead	Staff Time
Non-Point Source reduction-Green Infrastructure school pilot	Action 18	Local Government (\$24,000)		Staff time
PEPC	Action 21	Local Governments (\$56,000)	Supporting partner	Staff time
Ecosystem-Based Model of the Peconic Estuary	Action 23	NYS (\$200,000-FY19)	Lead partner + Stony Brook University and NYSDEC	
Peconic River Fish Pass – Upper Mills	Action 29	Suffolk County; NYSDEC, LIPA/PSE&G	Lead partner	Staff time
Alewife Creek Fish Pass	Action 29	Southampton	Partner	Staff Time
Alewife Monitoring on the Peconic River	Action 29	(EPA \$500)(Local Government \$10,000)	Lead	Staff Time & \$500 Supply Funds (EPA)
Aquaculture Impacts Study	Action 34	NYS	Lead	Staff Time

Table 4: Summary of Projects for BIL Funds

(a) BIL Year 3

Description	CCMP Action	Primary Funding Body	PEP Role	Funding (Y3) BIL award
Personnel and associated costs	Action 21	EPA/BIL	Staff	\$286,844
Water Access and Bulkhead Removal Assessment	Actions 9,12,14	EPA/BIL	Lead	\$156,500
Peconic Land Trust-Broad Cove Phase II	Actions 9,12,14	EPA/BIL	Co-Lead with Peconic Land Trust	\$166,456
Peconic East CHANGES (b) BIL Year 2	Actions 11,13,17,18	EPA/BIL	Co-lead with SBU	\$300,000

Primary Funding Funding (Y2) Description **CCMP** Action PEP Role Body **BIL** award Personnel Action 21 EPA/BIL Staff \$296,800 and associated costs Broad Cove Phase 1 Action 21 EPA/BIL Peconic Land Trust \$156,500 and PEP co-lead **Riverside Wetland** Actions 9. 14, 31 EPA/BIL Town of \$106,500 Concept Southampton and PEP co-lead Peconic CHANGES Action 29 EPA/BIL Co-lead with Stony \$300,000 Brook Team EPA/BIL Suffolk County; PEP \$50,000 Suffolk County Action 18 Septic Improve-LMI support

(c) BILYear 1

Description	CCMP Action	Primary Funding Body	PEP Role	Funding Requested (Y1) BIL award
Sag Harbor Stormwater Mgt	Action 21	EPA/BIL	Co-lead with Village of Sag Harbor	\$215,000
Southold, Goose Crk Outfall Removal	Action 21	EPA/BIL	Co-lead with the Town of Southold	\$100,000
Meetinghouse Creek Stormwater Wetland Construction	Action 29	EPA/BIL	Co-lead with Town of Riverhead	\$600,000

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FY24 Projects

CCMP GOAL: STRONG PARTNERSHIP AND ENGAGEMENT

Objective A: Overarching Priority Objective

Enhance PEP's organizational structure, operational practices, and financial position to support successful implementation of the CCMP

Staff development and Leadership training New

- a. Estimated Budget: FY24 \$35,000
- b. Partners and their roles: PEP
- c. Description and Objectives: To build a confident, high functioning program office team.
- d. Outputs and Deliverables: multi-day workshops and staff development activities.
- e. Estimated Milestones: Completion of training.
- f. Long Term Outcomes: PEP staff operating at a high level, with trusting team dynamics, and able to carry out annual workplans efficiently and successfully
- g. Clean Water Act Core Programs: N/A

ACTION 2: Develop and launch a CCMP Tracking System on PEP Website to report progress in implementing CCMP actions.

Performance Measure: Development and deployment of web-based CCMP Tracking System within three years of the final Revised CCMP.

CCMP Tracking System Management-Annual Management and GIS Updates New/On-going

- h. Estimated Budget: FY24 \$12,000 + FY23 \$12,000
- i. Partners and their roles: PEP (Lead); Stony Brook
- j. **Description and Objectives:** To continue to facilitate implementation of the 2020 CCMP, PEP will retain the services of the Geospatial Institute at Stony Brook University to update the tracking system and provide ongoing GIS support t the Program Office.
- k. **Outputs and Deliverables**: Maintenance of the on-line tool for tracking CCMP success. Up-to-date maps of program work products.
- I. Estimated Milestones: Bi-Annual updates with project maps provided as needed.
- m. Long Term Outcomes: PEP staff, our Management Conference and all partners will be able to easily track out progress of all goals and actions of the CCMP and retain an online geospatial tool for telling the story of the estuary.
- n. Clean Water Act Core Programs: N/A

Objective B (Overarching Priority Objective): Empower local communities to support estuary health, including underrepresented groups.

ACTION 6: Increase community members' awareness of the Peconic Estuary, key issues relating to the CCMP's Goals, and PEP as a resource to help them address the issues.

ACTION 7: Involve community members in citizen science programs to cultivate personal connections to the Peconic Estuary and inspire positive behavioral change to support Estuary health;

ACTION 8: Conduct outreach events and programs that engage community members in learning about the Peconic Estuary and taking action to support Estuary health;

ACTION 9: Incorporate environmental justice considerations into public education and outreach materials and events.

Performance Measures: Includes all listed.

Communication Strategy

Ongoing

- a. Estimated Budget: \$100,000 (East End Economic and Environmental Institute-EEEEI)
- b. Partners and their roles: PEP (Lead); Management Conference
- c. Description and Objectives: The Communication Strategy will enable the program to most effectively communicate science, ensure our communities are aware of issues facing the estuary, empower local governments to make positive changes in their municipalities, and highlight the work of the PEP. This is currently in the bidding phase. It is anticipated this will be complete in 2025
- d. **Outputs and Deliverables**: Strategy Document which will guide solicitation and securing of a contractor for a ten year communication strategy plan.
- e. Estimated Milestones: Quarterly CAC meetings to guide this process
- f. Long Term Outcomes: More engaged communities and empowered local governments
- g. Clean Water Act Core Programs: N/A

PEP Outreach

New & Ongoing

- a. Estimated Budget: StaffTime
- b. Partners and their roles: PEP
- c. **Description and Objectives**: Continued maintenance and creation of new partnerships as appropriate that expand outreach efforts, CCMP related information dissemination, and maintaining and developing digital outreach activities and initiatives,
- d. **Outputs and Deliverables**: Based on the Communication Strategy and annual strategy development and implementation of social media and digital communication and outreach materials including up to four PEP Newsletters per year, PEP website, and beach clean-up event.
- e. Estimated Milestones: CAC meetings (up to four)
- f. External Constraints: ongoing covid restrictions may inhibit some of these activities
- g. Long Term Outcomes: To achieve Objective B of the 2020 CCMP and empower communities to support estuary health, including underrepresented communities
- h. Clean Water Act Core Programs: All

PEP Outreach – Nutrient Reduction Concentration New & Ongoing

- a. Estimated Budget: \$81,400 FY24 (Local Government)
- b. Partners and their roles: PEP

- c. Description and Objectives: Carry out community meetings with civic associations and other community groups to discuss septic improvement and fertilizer reduction. Create content for social media and website about nutrient reduction, update social media and website regularly, content for PEP Newsletter.
- d. **Outputs and Deliverables**: social media and digital communication and outreach materials, PEP Newsletter, PEP website content
- e. Estimated Milestones: at least one meeting per month, two Newsletters annually, and weekly nutrient focused social media post
- f. External Constraints: scheduling for community groups can be challenging
- g. Long Term Outcomes: A more informed community base and nutrient reduction
- Clean Water Act Core Programs: Nutrient Reduction; Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs), Elements of this project prevent or mitigate the impacts of nutrient pollution.

Marine Conservation and Policy Fellowship

New & Ongoing-New Funding and Research Topic annually

- a. Estimated Budget: \$6,000 (FY24)
- b. Partners and their roles: PEP (Lead); Stony Brook
- c. Description and Objectives: In FY21 PEP initiated the first PEP Fellowship with the Stony Brook University Marine Conservation and Policy Program. This fellowship is a competitive award open to students currently enrolled in this Graduate Program and requires project proposals to assist PEP with working toward one of the 35 actions listed in the 2020 CCMP. In FY22 the project awarded worked with local governments, PEP, and NY Sea Grant to develop plans for shoreline adaptation technical resources and identify barriers to meaningful nature-based coastal adaptation. See our 2023presentation <u>here</u>. The FY24 project will work with the Nils Volkenborn lab at Stony Brook University to assist in the PEP funded Aquaculture impact Study.
- d. Outputs and Deliverables: Completion partial of CCMP Actions and/or research priorities
- e. **Estimated Milestones**: Presentation to TAC Committee, Presentation to Local Government Committee, Presentation to Management and Policy Committee.
- f. Long Term Outcomes: Increasing the visibility of PEP in the emerging local academic community, educating students on the mission of PEP and the importance of a healthy estuary, implementation of the 2020 CCMP
- g. Clean Water Act Core Programs: TBD

CCMP GOAL: RESILIENT COMMUNITIES PREPARED FOR CLIMATE CHANGE

Objective C: Help local communities to take meaningful, well informed action to prepare for and adapt to climate change impacts in the Peconic Estuary.

PEP CCMP-Based Mini Grant Program – Theme-Clean Water Ongoing

- a. Estimated Budget: \$124,960
- b. Partners and their roles: PEP (Lead); EPA \$94,500; Local Government (\$31,500)
- c. **Description and Objectives:** To provide funding to our communities to allow for the implementation of the 2020 CCMP Goal for Clean Water. To engage with our communities and

empower them to take action toward clean water and healthy habitats in the watershed and prepare for a changing climate.

- d. **Outputs and Deliverables**: The creation of 2-4 projects in the watershed that work toward the completion of the 2020 CCMP.
- e. **Estimated Milestones**: Grant call to go out in Fall 2022, grant awards announced Winter 2022/2023 and project initiation by Winter 2023. Completion of projects within two years.
- f. External Constraints: This mini-grant was not released in FY23. It will be released in FY 24. Staff capacity prevented this moving forward.
- g. Long Term Outcomes: More engaged communities that are working toward clean water and a healthier estuary.
- h. Clean Water Act Core Programs: Climate Actions

ACTION 11: Provide tools and assistance to local government to mitigate and adapt to the impacts of climate change.

Performance Measure: Delivery of the Critical Lands Protection Strategy Maps and ArcGIS data to Peconic Estuary resource managers to utilize as a broad tool for planning and adaptation initiatives

Performance Measure: Implementation of Actions and Strategies of the Peconic Estuary Climate Ready Action Plan

Performance Measure: Development of model code for local implementation of zoning and other land use tools in The Climate Adaptation Toolbox for Land Use and Municipal Planning identified in the Climate Ready Action Plan

Natural Shoreline and Climate Outreach Program Ongoing

- a. **Estimated Budget**: \$110,311; EPA (FY22 \$15,278); NYS(FY19 \$46,742; FY21 \$40,291); Local Government (FY22 \$8,000)
- b. **Partners and their roles**: PEP (Lead); Sea Grant (Lead); NYS (Funding Body); Local Governments (Funding Body)
- c. Description and Objectives: This project is the continuation of NY Sea Grant participation as the co-chair of the PEP Shoreline Adaptation Initiative. Overall this work looks to answer the question- What factors are contributing to the issues faced in the process of thoughtful climate resilience planning on the shorelines of the Peconic Estuary? The Shoreline Adaptation Initiative synthesizes information gathered from partnerships within the many subgroups within it to leverage funds to create resources and draft policy/process changes to align decision-making, goals, and interpretation of shoreline policies in the Peconic Estuary. This initiative includes the continued coordination of subgroups, including the Core Assessment, Homeowner Decision-makers, Implementers Experience, and Shoreline Policy-makers Groups, all needed to address current challenges related to thoughtful shoreline decision making within the Peconic Estuary.
- d. **Outputs and Deliverables**: Continued meetings with each subgroup, draft the documentation of regulatory agencies, property owners, & implementer's shoreline permitting experiences to collaboratively find meaningful solutions. Work with NYSG Law Fellow to draft code changes to benefit all stakeholders. Outreach materials thoughtfully targeting each audience to suggest opportunities for change and better navigate the process. Provide initial development and investigating of funding sources for localized technical resources.

- e. Estimated Milestones: Information sharing summit
- f. Long Term Outcomes: State, County, and local governments working together to make decisions about regional climate adaptation planning that prioritizes conserving natural shorelines. A more informed public about climate adaptation issues and the value and importance of natural shorelines.
- g. Clean Water Act Core Programs: Climate Actions

Continue to distribute information and tools developed in the Peconic Estuary Critical Lands Protection Strategy and Climate Ready Action Plan to municipalities within the watershed and work with the East End Towns to implement climate resiliency actions Ongoing

- a Estimated Budget: Staff time
- b **Partners and their roles**: PEP (Lead Partner), Local Governments, Anchor QEA and TNC (Supporting Partner)
- c Description and Objectives: PEP completed an update to the Peconic Estuary Critical Lands Protection Strategy (CLPS) and conducted a risk-based climate vulnerability assessment to develop the Peconic Estuary Partnership Climate Vulnerability Assessment and Action Plan consistent with EPA's Climate Ready Estuaries Program. PEP plans to use the information in this report and associated tools to assist East End municipalities with planning decisions related to resiliency and climate adaptation. See <u>here for the CLPS story map and tool</u> PEP also plans to work with East End municipalities to develop model codes that will help increase climate resiliency on the East End.
- d. **Outputs and Deliverables**: Development of model codes and implementation of strategies in the Peconic Estuary Climate Ready Action Plan
- e Estimated Milestones: Begin to develop draft model codes for local implementation in FY21
- f Long Term Outcomes: Educated local governments equipped with tools and information to plan for a changing climate.
- g Clean Water Act Core Programs: N/A

ACTION 13: Collaborate on coastal and ocean acidification monitoring and research

Mid-Atlantic Regional Council on the Ocean (MARCO) – Mid-Atlantic Carbon Project New

- a. Estimated Budget: Staff time
- b. Partners and their roles: PEP (Supporting Partner), NYSDEC (Lead Partner)
- c. Description and Objectives: MARCO has a new work group focusing on enhanced marine carbon dioxide removal (mCDR), coastal blue carbon accounting, and nature-based solutions to coastal ocean carbon uptake.. Partnering with researchers at the Virginia Institute of Marine Science (VIMS) to compile existing data on Blue Carbon stocks in the Mid-Atlantic.
- d. **Outputs and Deliverables**: Collaborative document for the Mid-Atlantic Region.
- e. Estimated Milestones: Monthly meetings
- f. Long Term Outcome: A cohesive and collaborative approach to carbon removal using nature based solutions and working in tandem with regional partners and best scientific information available. Regional adoption of recommendations from the NY OA Task Force as appropriate for the watershed.
- g. Clean Water Act Core Programs: N/A

CCMP GOAL: CLEAN WATERS

Objective D: Protect areas with clean water from degradation.

ACTION 16: Identify areas of clean water quality and deliver information that local governments and others can use to protect those areas.

Performance Measure: Annual review of water quality data and water quality monitoring programs with assessment and recommendation regarding changes to water quality data collection in order to adequately monitor all waterbodies in the Estuary.

ACTION 18: Implement science-based approaches for monitoring and reducing nutrient pollution.

Performance Measure: Work in conjunction with our partners to contribute to the NYSDEC effort to centralize water quality data with the creation of a portal to allow all interested stakeholders, such as local monitoring groups, non-profits, or governmental agencies, to share water-quality monitoring data through the Long Island Water Quality Information Data System (LIQWIDS).

Continuous Water Quality Monitoring

New & Ongoing

- Estimated Budget: Approximately \$180,000 annually funded through the USGS and using PEP NYS EPF Funds.
- b. **Partners and their roles:** United States Geological Survey (USGS) (Lead Partner and Contracting Entity), PEP (Co-Lead), NYSDEC (Funding Entity), Suffolk County (Funding Entity)
- c. Description and Objectives: USGS maintains three continuous water quality monitoring stations in the Peconic Estuary, one located at the mouth of the <u>Peconic River</u>, one in <u>Orient</u>, and one nd one on <u>Shelter Island</u>. These three monitoring stations complement the periodic sampling conducted by SCDHS by providing continuous sampling of the water quality conditions within the estuary. The stations provide high frequency measurements of key water quality parameters to allow long-term trend assessment of coastak and other incremental changes; estimates of frequency, severity, and duration of hypoxia and anoxia.
- d. **Outputs and Deliverables:** USGS produces daily data reports, real-time data downloadable via the internet, incorporated by PEP staff into State of the Bays Report and used by researchers and partner other agencies.
- e. **Estimated Milestones:** Annual review with USGS and PEP. PEP Water Monitoring collaborative provides input to effectiveness and use of data.
- f. Long Term Outcomes: Water quality data will be used to assess environmental conditions in the Peconic Estuary and refine management programs as necessary. Based on water quality data, priority projects and research initiatives can be identified and the PEP can continue its success in efforts to protect and restore the Estuary. Data collected by these monitoring efforts inform periodic reporting, including environmental indicators reports and "State of the Bay" publications, and support adaptive management.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Water Quality Annual Report New

- a. Estimated Budget: FY24 \$35,000
- b. Partners and their roles: Stony Brook (Gobler Lab)(lead), Stony Brook SoMAS Geospatial Center (lead), PEP
- c. Description and Objectives: The development of an annual water quality report that links to the water quality app that delivers easy to understand results to the public to enhance the ability of municipalities to make management decisions.
- d. Outputs and Deliverables: Annual report
- e. Estimated Milestones: Data collection and collation and then report release.
- f. Long Term Outcomes: A more informed public and local governments.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals.

Water Quality App and Data Platform Ongoing

- h. Estimated Budget: \$27,720 (Local Government).
- Partners and their roles: Stony Brook Geospatial Center, Suffolk County, USGS, Cornell i. Cooperative Extension, and NYSDEC
- j. Description and Objectives: The development of an application to get water quality data easily from a phone, tablet or computer app. This will be an outreach tool used for teaching and community engagement as well as a way to share important water quality data. HABs will also be included in the App and will serve as a public outreach tool for HAB waters and human health.
- k. Outputs and Deliverables: An app that is user friendly and helps people make more informed decisions.
- I. Estimated Milestones: Data collection and collation and then app development and release.
- m. Long Term Outcomes: Water quality data will be used for citizens, local governments, community civic associations and schools to make better decisions about local water usage. Create a more informed watershed population.
- n. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals;

Objective E: Increase understanding of nutrient pollution in groundwater and surface waters, and decrease negative impacts from legacy, current, and future nutrient inputs.

ACTION 17: Plan science-based approaches for monitoring and reducing nutrient pollution

CCMP Research Priority: Characterization of subaqueous freshwater discharge zones in the Peconic Bays

Performance Measure: Completion of Peconic Estuary Water Quality Monitoring Strategy within 3 years of the final Revised CCMP.

Water Quality Monitoring Collaborative Ongoing

- a. Estimated Budget: Staff Time
- b. Partners and their roles: PEP (Lead Partner)

- c. **Description and Objectives**: The Peconic Estuary Partnership has a robust monitoring program that assesses a range of critical The Water Quality Monitoring Collaborative was established as a result of the Strategy completed in FY20. Parameters were agreed upon and the Collaborative is tasked with reporting annually based on the agreed parameters.
- d. **Outputs and Deliverables:** Annual Water Quality Report.
- e. Estimated Milestones: Annual Report, next steps outlined in the Peconic Estuary Water Quality Monitoring Strategy.
- f. Long Term Outcomes: Better informed local governments to facilitate decisions to support clean water.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Performance Measure: Collaborate with the NYSDEC to compile and update a database of completed nitrogen management projects within the Peconic Estuary watershed to guide current and future nitrogen management actions. Utilize database to track nitrogen reduction efforts within the watershed.

Long Island Nitrogen Action Plan (LINAP) Ongoing

- a. Estimated Budget: Staff time
- b. **Partners and their roles:** NYSDEC (Lead) and the Long Island Regional Planning Council (LIRPC), in partnership with numerous local governments and interested organizations on Long Island, Long Island Sound Study and the NYS South Shore Estuary Reserve. PEP (Supporting Partner)
- c. Description and Objectives: LINAP will determine nitrogen load reduction targets as well as alternatives and strategies to meet those targets. Through LINAP, PEP will work to provide information that local governments need to reduce nitrogen loading. In the fall of 2017, the LINAP Project Management Team moved forward with a PEP-USGS Solute Transport Modeling project, which will allow for the quantitative analysis of nitrogen loading rates to the Peconic Estuary resulting from wastewater and fertilizer inputs to groundwater in Suffolk County. The Solute Transport Model is anticipated to be complete in 2022. See below Peconic Estuary Solute Transport Model Task for more information. Additionally, PEP and LINAP developed a Cross-walk document outlining specific actions where we can coordinate and future actions. As this partnership has grown, we are working together to expand the PEP Homeowner Rewards Program throughout Long Island, common messaging for fertilizer usage on Long Island, and streamlined nutrient reduction efforts.
- d. Outputs and Deliverables: Long Island Action Plan contribution and final plan completion.
- e. Estimated Milestones: Monthly calls/and or meetings between PEP and LINAP.
- f. Long Term Outcomes: Streamlined plan that avoids duplication of efforts by partners and achieves a more efficient way forward for achieving nitrogen reduction goals in the Peconic watershed.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Performance Measure: Completion of the Peconic Estuary Solute Transport Model analysis to understand historical nitrogen loading and to develop management strategies based on future scenarios.

Peconic Estuary Solute Transport Model Ongoing

- a. Estimated Budget: Staff time, NYS 2015 Budget: \$750,000
- Partners and their roles: USGS (Contracting Entity), PEP (Supporting Partner), NYSDEC (Funding Entity)
- c. Deliverables and Objectives: Develop a solute transport model to be used in conjunction with the results of the Nitrogen Load Model to establish updated load reduction goals for non-point source loads.
- d. Outputs and Deliverables: A USGS report will document model development as well as analytical results for a limited set of representative wastewater management scenarios. The report will be designed with the dual purposes of 1) documenting the models and methods developed as part of the USGS investigation and 2) providing a detailed description of surface-water loading rates under changing land-based nitrogen-input conditions. Preliminary model results will be transmitted as PDFs to stakeholders as needed during the course of this investigation. The USGS will present progress and results of the investigation at technical meetings and public forums upon request. Modeling will proceed collaboratively with NYSDEC and PEP personnel to ensure that the two projects are complementary. An additional USGS report or journal article may be published near the end of the project to compare the solute-transport methods and results from the Cape Cod and Peconic Estuary investigations. Numerical models and data used to represent nitrogen source terms will be publicly disseminated as a separate web-hosted USGS Data Release product, in accordance with USGS policies. PEP staff acts as project manager, coordinating all meetings and working in conjunction with the TAC on technical review of the body of work. PEP staff organize quarterly progress meetings, distribute summary minutes and work with USGS to gather the necessary data inputs for the model.
- e. Estimated Milestones: Modeling due to be complete in FY22. In FY22, finalize report and disseminate and communicate results to stakeholders.
- f. **External Constraints:** This project has experienced severe delays. Covid 19 cause a one year delay followed by additional delays as the USGS worked o align this project with a Long Island-wide endeavor. PEP is waiting on the final report and dashboard tool to allow for easy use of the data by local municipalities.
- g. Long Term Outcome: Reduce nitrogen loads to the Peconic Estuary towards attainment of the Peconic Estuary TMDL and ensure a healthy and productive estuarine ecosystem.
- h. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads.

ACTION 18: Implement science-based approaches for monitoring and reducing nutrient pollution.

Performance Measure: Phased Implementation of the Suffolk County Subwatershed Wastewater Plan to abate septic-related current and future nitrogen loading.

Three Mile Harbor PRB Monitoring at Tanbark Creek New and Ongoing

- a. Estimated Budget: \$50,000 (FY24 Local Governments) FY23 \$50,132 Local Government
- b. Partners and their roles: East Hampton and Cornell Cooperative Extension (lead); PEP (Supporting Partner).
- c. Description and Objectives: In 2022, with New York State funds, the Town of East Hampton and Cornell Cooperative Extension installed an oil injection Permeable Reactive Barrier (PRB) in Three Mile Harbor at Tanbark Creek. This was a pilot project. PEP will be funding the monitoring of this project to assess success in nitrogen reduction at the immediate pore water monitoring wells and measure if there is a quantitative reduction in nitrogen downstream in Three Mile Harbor. A monitoring plan will be developed prior to sampling.
- d. **Outputs and Deliverables**: Monitoring plan has been developed. Sampling will continue to occur at the frequency and location identified in the monitoring plan and nitrogen reduction will be assessed.
- e. Estimated Milestones: Quarterly calls/ and or meetings between PEP, East Hampton, and CCE.
- f. Long Term Outcomes: An understanding of the success of oil-injection PRBs.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs); Elements of this project prevent or mitigate the impacts of nutrient pollution.

Suffolk County Subwatersheds Wastewater Plan (SWP) Ongoing

- h. Estimated Budget: Staff time
- i. **Partners and their roles**: Suffolk County Department of Health Services (funding agency), Long Island Sound Study, South Shore Estuary Reserve, PEP (Supporting Partner).
- j. Description and Objectives: The purpose of the SWP is to provide a wastewater management plan specific to all parcels within the priority subwatersheds of Suffolk County in order to meet the County's first order of nitrogen load reduction goals for surface water restoration and the protection of groundwater and drinking water. In FY21, PEP established priority embayments to move forward the Water Quality strategy goals and based them off of the SWP priority areas.
- k. **Outputs and Deliverables**: PEP will continue to work with Suffolk County to identify communities in the high need area (Level 1) to focus PEP efforts for Septic Improvement and other nutrient reduction plans.
- I. Estimated Milestones: Quarterly calls/ and or meetings between PEP and Suffolk County.
- m. Long Term Outcomes: Streamlined plan that avoids duplication of efforts by partners and achieves a more efficient way forward for achieving nitrogen reduction goals in the Peconic watershed.
- n. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Performance Measure: Increase funding and expanded outreach for PEP's Homeowner Rewards Program, which provides financial incentives for homeowners to install rain gardens, native plantings, and/or rain barrels on their properties that benefit the environment.

Non-Point Source Reduction for Schools, Community Groups, and Homes New & Ongoing

- a. Estimated Budget: FY24 \$15,000 (EPA), FY24 \$10,000 Local Government, (Local Government FY23 \$24,000)
- b. **Partners and their roles**: PEP (Lead); LINAP; LISS; SSER, Center for Advocacy and Support (CAST) (new partner)
- c. Description and Objectives: For many years, The <u>Peconic Estuary Partnership (PEP) Homeowner</u> <u>Rewards Program</u> has provided financial rewards for homeowners, who live within the Peconic Estuary watershed, to add rain gardens, native plantings, and/or rain barrels to their properties. Simultaneously, the program educates the community about the benefits of rain gardens, rain barrels, and native plants for nitrogen reduction, stormwater pollution reduction, and other ecosystem benefits. In FY21, PEP began working with the NYS Long Island Nitrogen Action Plan (LINAP), the Long Island Sound Study (LISS), and the NYS South Shore Estuary Reserve (SSER) to streamline our messaging about fertilizer use across Long Island. The PEP will continue to work with these partners to bring the PEP Homeowner Rewards Program to all of Long Island. New to FY22, PEP will pilot a School Rewards Program, where we will work with local schools to give them funds to change a portion of their lawn to native plant gardens and install rain barrels.
- d. **Outputs and Deliverables**: Installation and completion of sustainable landscaping projects on properties within the Peconic Estuary watershed.
- e. Estimated Milestones: Annual spring fall season application period.
- f. Long Term Outcomes: Improve public's understanding of benefits or sustainable landscaping and long-term and widespread behavior change favoring landscaping best management practices. Reductions in fertilizer use, pesticide use, water use, and the promotion of natural vegetation and benefits to pollinators and native fauna. Less fertilizer usage in the watershed, decreased stormwater runoff, and increased native plants and localized habitats.
- g. External Constraints: PEP faced numerous challenges to this project. Working directly with school has proven to be difficult due to contracting funds. We are expanding the partners to include local non-profits to allow them to receive funds and carry out work on school and non-profit properties.
- h. Clean Water Act Core Programs: Elements of this project prevent or mitigate the impacts of nutrient pollution; assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Center for Advocacy, Support, and Transformation (CAST) – Native & Pollinator Gardens New

- a. Estimated Budget: FY24 \$20,000
- b. Partners and their roles: CAST (Lead), PEP (Lead)
- c. **Description and Objectives:** In FY23, PEP supported CAST to install a small native plant garden and educational sign. In FY24, PEP will increased support to CAST to enable them to expand heir garden and add pollinator species, maintain existing garden area, and increase their educational work using this site. CAST uses these educational materials to enhance literacy among their

communities, build skills, and educate community members on the importance of pollinator species and stormwater management

- d. **Outputs and Deliverables**: Installation and completion of sustainable landscaping projects at CAST, completion of educational materials.
- e. Estimated Milestones: garden planting, signage installation, educational forums
- f. Long Term Outcomes: Improve public literacy and understanding of benefits or sustainable landscaping and long-term and widespread behavior change favoring landscaping best management practices. Reductions in fertilizer use, pesticide use, water use, and the promotion of natural vegetation and benefits to pollinators and native fauna. Less fertilizer usage in the watershed, decreased stormwater runoff, and increased native plants and localized habitats.
- g. External Constraints: none
- h. Clean Water Act Core Programs: Elements of this project prevent or mitigate the impacts of nutrient pollution; assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Action 19: Collate results of Harmful Algal Bloom (HAB) monitoring and deliver findings to support management decision making

Performance Measure: Implementation of the Suffolk County Harmful Algal Blooms Action Plan

HABs Priority Project

New and Ongoing

- a. Estimated Budget: FY24 \$120,000 NYS (FY23 \$110,000 Local Government)
- Partners and their roles: PEP (Lead); Stony Brook(Lead); NYS (funding body), Local Government (Funding Body)
- c. Description and Objectives: In FY23 Stony Brook University completed the second year of study which has established a set of preliminary results for assessing the degree of nitrogen necessary to lessen the intensity of HAB events in priority Peconic Embayments. The HABs *Cochlodinium polykrikoides, Alexandrium,* and *Dinophysis acuminate* have recurred annually across the Peconic Estuary with intensities and impacts varying year-to-year. Continuing to investigate the role of nitrogen in different HAB species and the spatial and temporal availability wil help estuary managers make more informed decisions about reducing nitrogen. This monitoring follows the recommendations of the 2017 Suffolk County HABs Action Plan
- d. Outputs and Deliverables: What level of nitrogen reduction will reduce HABs.
- e. Estimated Milestones: bi-annual reports and final report and presentations.
- f. Long Term Outcomes: A greater understanding of the drivers and dynamics of recurring HABs in the Peconic estuary.
- g. Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Ashawagh Hall Stormwater Control

New

- a. Estimated Budget: \$130,000 (Local Government funds)
- b. Partners and their roles: PEP (Lead); East Hampton (Funding Body)

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- c. Description and Objectives: PEP will work with a consultant to create a bioswale on the North side of he property, install permeable pavers, and install educational signs at the Ashawagh Community Hall in East Hampton.
- d. Outputs and Deliverables: Bioswale and permeable pavers installed and educational signage installed.
- e. Estimated Milestones: annual reporting, presentation to East Hampton community at Ashawagh Hall
- f. Long Term Outcomes: A more informed community about the issues surrounding stormwaer control. Actual increased flood control at the location.
- Clean Water Act Core Programs: Identifying Polluted Waters and Developing Plans to Restore g. Them (TMDLs): Assessment of progress toward TMDL goals; refinement of implementation plan and TMDL goals for land-based loads; Elements of this project prevent or mitigate the impacts of nutrient pollution.

Objective F: Reduce current and future inputs of toxics, pathogens, and marine debris into groundwater and surface waters, and minimize their impacts

ACTION 21: Expand non-point source subwatershed management plans to all pathogen-impaired waterbodies and continue to use existing plans

Performance Measures: Development of strategies and outreach materials to help achieve stormwater reduction goals.

Performance Measure: Review of current PEP Non-point Source Subwatershed Management Plans and initiation of viable projects.

Performance Measure (under Action 31): Complete engineering designs for ongoing, priority wetland restoration project at Meetinghouse Creek.

Action 22: Assess Marine Debris in the Peconic Estuary and develop plans to address problems that are found.

Microplastics in the Peconic Estuary Ongoing

- a. Estimated Budget: \$75,000 (EEEEI); \$120,744 (NYS funds)
- b. Partners and their roles: Stony Brook (lead) PEP (Partner), NYSDEC (Funding Entity), NYS Attorney General's office (Funding Entity).
- c. Description and Objectives: The identification of polymers, additives, and pigments can potentially tell us what sort of product was the source of microplastics in the environment. Using a 3-dimensional chemical map will reveal certain particles beach debris. This work will determine if the microplastic pollution in the Peconic Estuary is also the result of recycled products and can further identification of other sources of plastic pollution in our estuary be identified?
- d. Outputs and Deliverables: Identification of microplastic pollution in the Peconic Estuary and its source.
- e. Estimated Milestones: Quarterly reports and annual presentation to PEP Committees and the NYS Attorney General's office.

- f. Long Term Outcomes: An understanding of the sources of microplastic pollution in the Peconic Bays to inform management decisions.
- g. Clean Water Core Programs: Identifying Polluted Waters and Developing Plans to Restore Them.

CCMP GOAL: HEALTHY ECOSYSTEM WITH ABUNDANT, DIVERSE WILDLIFE

Objective G: Expand scientific understanding of the Peconic Estuary ecosystem and deliver information that supports management decision-making

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

Performance Measure: Development of an ECOSIM model to characterize the estuarine food web and examine structural changes in ecosystem properties over time.

Performance Measure: Detailed spatial and temporal analysis of the Peconic Estuary trawl survey data to assess how species use the Estuary and how species and communities have responded to local and regional environmental changes over time.

Ecosystem-Based Model of the Peconic Estuary

Ongoing

- h. Estimated Budget: Staff time, \$200,000 NYS FY18 Funds
- i. **Partners and their roles:** PEP (Lead Partner), NYSDEC (Funding Entity), The Research Foundation at Stony Brook University (Contractor).
- j. Description and Objectives: Analyze spatial and temporal trends in the Peconic Estuary finfish trawl survey dataset, and develop risk metrics from ecological relationships for the Peconic Estuary that examine whether local and regional environmental changes have increased the vulnerability of individual finfish and mobile invertebrate species, community assemblages, and ecosystem processes. ECOSIM is a quantitative modeling framework that can represent all major ecosystem functional groups and can be used to identify and assess structural changes in the ecosystem in response to environmental change. The proposed study will identify vulnerable species, critical habitats, and ecosystem properties within the Peconic Estuary. This information has direct application to decisions affecting the use, management, and conservation of the natural resources in the bay.
- k. Outputs and Deliverables: ECOSIM and ECOPATH Model, plan and facilitate meetings.
- I. **Estimated Milestones:** This project was delayed due to COVID-19. Originally due to begin in FY19, Stony Brook University was not able to begin this work until FY20. Model developed is anticipated to be complete by March 2024.
- m. Long Term Outcomes: An understanding of the food web dynamics and organism/habitat interactions will allow for optimized planning for the Peconic Bays.
- n. External Constraints: Project has experienced severe delays due to covid 19 and then contracting delays from NYS.
- o. Clean Water Core Programs: protecting Large Aquatic Ecosystems.

Objective H: Restore and protect key habitats and species diversity in the Peconic Estuary and its watershed.

ACTION 29: Maintain, restore, and enhance viable diadromous fish spawning and maturation habitat in the Peconic Estuary watershed.

Performance Measure: Completion of the Woodhull Dam, Forge Road Dam, and Upper Mills Dam diadromous fish connectivity project on the Peconic River to restore 300 acres of habitat.

Complete design and construction of diadromous fish passage projects on the Peconic River Ongoing – details in project descriptions

- a. Estimated Budget: Staff time, Partner funds (details in project description section)
- b. Partners & Roles: PEP, Suffolk County, NYSDEC, East End towns and villages.
- c. Description and Objectives: Support fish passage construction in the Peconic River and its tributaries. During the upcoming year PEP and its partners are working towards opening up acres of freshwater spawning area to diadromous fish through the completion of fish passage projects. PEP will continue to support the design, permitting and construction of fish passage throughout the Peconic River. Descriptions, budgets, and anticipated external constraints for each project are listed below.
- d. **Outputs and Deliverables:** Successful completion of fish passage design, permitting and construction. Installation of eel pass at Grangebel Park.
- e. Estimated Milestones: Land Use Agreement for Upper Mills Fish Pass by Fall 2024, secure construction funds by March 2025.
- f. Long Term Outcomes: Restoring and strengthening ecosystem services, fish and wildlife of the Peconic Estuary will benefit from access to critical habitat, increased biodiversity and restoration of historic food webs.
- g. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

Eelpass at Bridal Falls in Grangebel Park, Riverhead Ongoing

- a. Estimated Budget: \$1,966 (FY23 Local Government); Staff Time
- b. **Partners and their roles**: PEP (Lead); Suffolk County; Town of Riverhead, Seatuck Environmental, Long Island Diadromous Fish Workgroup
- c. Description and Objectives:.
- d. Outputs and Deliverables: A functioning eelpass at this location.
- e. Estimated Milestones: LI Diadromous Fish Workgroup meeting updates.
- f. Long Term Outcomes: A thriving American eel population in the Peconic River system
- g. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems

Upper Mills Dam Fish Pass -Land Use Agreement Ongoing

- a. Estimated Budget: Staff Time
- b. Partners and their roles: PEP (Lead); Suffolk County; Town of Riverhead, PSE&G/LIPA
- c. Description and Objectives: In FY21 the Engineering design and permitting was completed for the fish pass project at the Upper Mills Dam. This is a complicated site that will cross ownership boundaries between the Town of Riverhead, Suffolk County, and the power company PSE&G-LIPA. During the course of this process, it was determined that before construction can begin, a land use agreement would need to be put in place so all parties are in agreement with the final installation of the fish ladder.

- d. Outputs and Deliverables: A signed land use agreement by all necessary parties.
- e. **Estimated Milestones**: PEP will carry out meetings as necessary and liaise with all entities to ensure this agreement moves forward.
- f. Long Term Outcomes: A legal agreement to allow for the construction of the fish ladder at Upper Mills
- g. Clean Water Act Core Programs: N/A

Performance Measure: Completion of culvert improvements on Alewife Creek to enhance the largest alewife run on Long Island;

Performance Measure: Completion of priority diadromous fish habitat connectivity projects identified in the PEP Habitat Restoration Plan or Long Island Diadromous Fish Restoration Strategy, or through the Volunteer Alewife Monitoring Survey, in other areas of the Peconic watershed to restore additional habitat.

Complete design and construction of diadromous fish passage projects in other priority tributaries in the Peconic Estuary watershed

Ongoing – details in project descriptions

- a. Estimated Budget: Staff time, Partner funds (details in project description section)
- b. Partners & Roles: PEP, Suffolk County, NYSDEC, East End towns and villages.
- c. Description and Objectives: During the upcoming year PEP and its partners are working towards opening up acres of freshwater spawning area to diadromous fish through the completion of fish passage projects. PEP will continue to support the design, permitting and construction of fish in priority tributaries in the Peconic Estuary watershed. Descriptions, budgets, and anticipated external constraints for each project are listed below.
- d. **Outputs and Deliverables:** Successful completion of fish passage design, permitting and construction.
- e. Estimated Milestones: Meetings with partners to advance these projects.
- f. Long Term Outcomes: Restoring and strengthening ecosystem services, fish and wildlife of the Peconic Estuary will benefit from access to critical habitat, increased biodiversity and restoration of historic food webs.
- g. **External constraints:** Various constraints related to funding due to COVID19 and project details are outlined in the individual projects.
- h. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

Alewife Creek – The Town of Southampton received a Climate Smart Communities Grant award to complete the engineering design and construction of the Alewife Creek Habitat Enhancement project which includes the right-sizing of the existing culvert under Noyac Road, reducing stormwater runoff and enhancing the ability of alewife to reach freshwater spawning habitat in Big Fresh Pond within the Town of Southampton. PEP will assist in guiding the design of the project. Expected project completion is 2024.

Estimated Budget: Staff time, \$410,000 NYS Climate Smart Communities Grant, \$410,000 Southampton Town Community Preservation Fund

Performance Measure: Development of an alewife survey to monitor the population and assess the success of fish connectivity projects.

Alewife Monitoring on the Peconic River

New & On-going

- a. Estimated Budget: FY24 \$10,000 NYS; Staff time, Supply funds (EPA \$500)(Local Government \$10,000)
- b. **Partners and Roles:** PEP (lead), NYSDEC, Suffolk County Community College, Hofstra, Peconic Baykeeper, Seatuck Environmental Association
- c. Description and Objectives: PEP completed an EPA and DEC approved QAPP for alewife monitoring in the Peconic watershed. This includes a coordinated effort to analyze video footage to estimate alewife abundance. Additionally, we will continue to collect biological data (sex, size and age) on the Peconic River alewife population with the assistance of partners and continue to promote and expand the Long Island Volunteer River Herring Survey. Abundance data will be used by the Peconic Estuary Partnership and our partners to evaluate the success of fish passage restoration efforts. Additionally, the data will be provided to the New York Department of Environmental Conservation and the Atlantic States Marine Fisheries Commission to aid in stock assessments and the management of alewife.
- d. Outputs and Deliverables: Annual alewife monitoring reports.
- e. Estimated Milestones: Annual alewife monitoring report winter 2023. Hold trainings3winter 2023 for Volunteer River Herring Survey.
- f. Long Term Outcomes: Accurately track alewife abundance in the Peconic River, evaluate the success of fish passage restoration efforts and guide management of the species.
- g. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

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

Performance Measure: A comprehensive aerial survey of eelgrass in the Peconic Estuary to support future management decisions.

Carry out Eelgrass Aerial Survey Ongoing

- a. Estimated Budget: Staff time; \$130,000 NYS funds (additional funds to be contributed by Long Island Sound Study)
- b. Partners and their roles: PEP (Co-Lead Partner), LISS (Co-Lead Partner), NYS Department of Environmental Conservation (Funding Entity), USGS (Contracting Entity), University of Rhode Island (Contracting Entity), Peterson Lab Stony Brook University (groundtruthing)
- c. **Description and Objectives:** Coordinate with Long Island Sound Study to conduct an aerial survey to evaluate the current extent of eelgrass habitat in the Peconic Estuary and Long Island Sound watersheds and any increases or decreases in eelgrass habitat extent since the last aerial surveys.
- d. **Outputs and Deliverables:** Aerial maps of eelgrass extent in the Peconic Estuary and eelgrass habitat report
- e. **Estimated Milestones:** Aerial survey anticipated to be conducted spring 2023, Ground truthing expected to be completed fall 2023. Analysis and reporting expected to be completed Winter 2024.

- f. **External Constraints:** The 2023 Aerial flyover did not move forward due to smog from the Canadian wildfires. These will occur in June 2024.
- g. Long Term Outcomes: Continual partnership between the two NEPs for a common goal will benefit both programs and allow for temporal alignment with eelgrass bed assessments every five years.
- h. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

Eelgrass Aerial Survey - Groundtruthing

Ongoing

- a. Estimated Budget: Staff time; \$47,000 Local Government funds
- b. Partners and their roles: PEP (Co-Lead Partner), Peterson Lab, Stony Brook (Contracting Entity)
- c. **Description and Objectives:** Coordinate with University of Rhode Island to carry out the ground trothing for the aerial survey.
- d. **Outputs and Deliverables:** QAPP, interim meetings, Aerial maps of eelgrass extent in the Peconic Estuary and eelgrass habitat report
- e. **Estimated Milestones: QAPP complete,** Ground truthing expected to be completed fall 2024. Analysis and reporting expected to be completed Winter 2025.
- f. **External Constraints:** The 2023 Aerial flyover did not move forward due to smog from the Canadian wildfires. These will occur in June 2024.
- g. Long Term Outcomes: Continual partnership between the two NEPs for a common goal will benefit both programs and allow for temporal alignment with eelgrass bed assessments every five years.
- h. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

SAV Historical Data Compilation and Story Map Ongoing

- a. Estimated Budget: Staff time; \$32,038 (FY23 Local Government); Stony Brook Geospatial Center
- b. **Partners and their roles:** PEP (Co-Lead Partner), Geospatial Center (Co-Lead Partner), Local Government (Funding Entity), CCE (partner)
- c. **Description and Objectives:** Compile the PEP SAV Long Term Monitoring Program data from 1997 to 2022 and create time series maps, data analysis, and a story map that includes this work, as well as, the development of the bio-optical model and other relevant SAV information from the Peconics.
- d. Outputs and Deliverables: Time series maps, data analysis, and story map
- e. Estimated Milestones: Quarterly meetings, TAC presentation and approval
- f. Long Term Outcomes: A resource for the history of the SAV in the Peconics for comparative purposes and a tool for public outreach
- g. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

Performance Measure: Identification of sites where eelgrass restoration or enhancement if feasible and implementation of projects.

Performance Measure: Identification of sites where water quality improvements could potentially increase habitat suitability for eelgrass and implementation of projects.

Peconic SAV Coordination and Strategy Development Ongoing

- a. Estimated Budget: Staff time; \$85,000 (FY23 Local Government funds)
- b. Partners and their roles: PEP (Lead Partner), Dr Jonathan Lefcheck at Smithsonian Institute
- c. Description and Objectives: Develop an SAV Management Strategy for PEP and Coordinate the North East Regional Collaborative for SAV management and preservation. Convene a PEP SAV workgroup and provide training to PEP and partners for emerging techniques of management and monitoring. Work with Dr Brad Peterson and Dr Joe Tamborski, co-recipients of the 2022 EPA Coastal Watershed Grant, as they develop results and use this for informed management decisions. Work with NYSDEC Eelgrass Coordinator to assist NYS in adherence of the Sea Grass Protection Act and the development of eelgrass management areas, as appropriate.
- d. **Outputs and Deliverables:** PEP Staff support, SAV Management Plan, SAV Workgroup, Training Materials, Regional Collaborative
- e. Estimated Milestones: QAPP, Management Plan, Bi-Monthly meetings
- f. Long Term Outcomes: Protection of existing eelgrass beds in the Peconic Estuary and expansion of eelgrass habitat, where feasible.
- g. Clean Water Act Core Programs: protecting Large Aquatic Ecosystems.

ACTION 31: Use available habitat quality assessment and climate change resiliency tools to prioritize wetland restoration projects identified in the 2020 PEP Habitat Restoration Plan and implement the top projects.

Performance Measure: Complete engineering designs for ongoing, priority wetland restoration project Paul Stoutenburgh Preserve

Complete Engineering Design Plans for Paul Stoutenburgh Habitat Restoration Project Ongoing

- a. Estimated Budget: Staff time, \$100,000 (2017 Suffolk County Capital Budget Funds).
- b. Partners & Roles: PEP (Lead Entity), Town of Southold, Suffolk County
- c. **Description and Objectives:** PEP via Suffolk County awarded the contract for engineering design to a consulting firm in FY21. PEP will work with Town of Southold and Suffolk County to complete engineering design and permitting for a habitat restoration project at Paul Stoutenburgh Preserve in the Town of Southold. This project involves improving the tidal flow into the wetland and removal of 6 acres of invasive *Phragmites* and restoration to native vegetation within the larger Paul Stoutenburgh Preserve (*formerly* Arshamomaque Pond Preserve).
- d. **Outputs and Deliverables:** Final engineering design and permitting of wetland habitat restoration at site.
- e. Estimated Milestones: Quarterly meetings with Town of Southold and other project partners
- f. External Constraints: Project was delayed in FY20 due to COVID-19 related funding uncertainties but has moved forward in FY21.
- g. Long Term Outcome: The benefits of habitat restoration efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
- h. Clean Water Act Core Programs: Wetland Protection

ACTION 31: Use available habitat quality assessment and climate change resiliency tools to prioritize wetland restoration projects identified in the 2020 PEP Habitat Restoration Plan and implement the top projects.

Performance Measure: Complete construction of priority wetland restoration project.

Complete Construction of Indian Island Wetland Restoration Project Ongoing

- a. Estimated Budget: In FY23, PEP Management Committee amended workplans FY21 and FY22 providing \$60,000 to support this project, Staff time; \$1,406,666 from partner awards and match: NYSDEC WQIP/AHR Grant (\$788,000 award & \$262,666 match; \$56,000 FY00 Grant), \$300,000 Suffolk County, EPA 320 SC Award FY21 (\$27,646.82), EPA 320 SC Award FY22(\$36.586.00)
- b. **Partners and Roles**: PEP (project coordinator), NYSDEC (Funding and Contracting Entity), Suffolk County (Lead Partner)
- c. Description and Objectives: This project aims to restore a tidal wetland located within the Indian Island County Park that adjoins with Terry Creek and Flanders Bay. Dredging of nearby creeks in the 1940s-1970s accounted for nearly 1 million cubic yards of dredge material being placed over 54 acres at Indian Island County Park- wiping out an entire tidal wetland ecosystem. This project seeks to excavate approximately 6,400 cubic yards of previously placed dredge materials from the site, install tidal channels and restore the area to a productive salt marsh ecosystem. The restored marsh system will be established based on similar local reference high and low marsh elevations; with particular focus to allow for marsh migration and vegetation shifts in response to sea level rise. PEP is assisting Suffolk County and providing technical guidance on the design plans.
- d. **Outputs and Deliverables:** Final engineering design, permitting, and implementation of wetland restoration at site
- e. Estimated Milestones: Project expected to be completed December 2024
- f. **External Constraints:** This project has experienced severe delays to date. The funds are currently expiring in December 2023. If this work is not completed in this time frame the possibility exists that it will not move forward as funding will be lost.
- g. Long Term Outcomes: The benefits of habitat restoration efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
- h. Clean Water Act Core Programs: Wetland Protection

Performance Measure: Complete engineering designs for ongoing, priority wetland restoration project at Narrow River/Broad Meadows marsh.

Performance Measure: Complete construction of Narrow River/Broad Meadows Wetland Restoration

Accabonac Harbor Saltmarsh complex Restoration Ongoing

a. Estimated Budget: PEP is using \$150,000 of Suffolk County capital funds to carry out the expansion of current conceptual designs to surround marsh complex public lands, develop permit-ready designs and bring through permitting. TNC has previously spent \$30,000 for conceptual plans on some parcels.

- Partners and Roles: PEP (project coordinator), Suffolk County (funder), TNC (funder and project lead), SMARTeams (contractor), Town of East Hampton (partner), and Accabonac Protection Committee (partner)
- c. Description and Objectives: The regional group of experts, Salt Marsh Adaptation & Resiliency Teams, or SMARTeams have piloted new techniques to address hydrologic dysfunction found within landscapes of salt marshes across the northeast region. This project will be amongst the first-of-its-kind restoration practice, with implications for marsh restoration approach across Suffolk County. PEP and Suffolk County Health Services is currently leading the next phase of design and permitting. This project will introduce an alternative to traditional high disturbance restoration to Peconic Estuary with a focus on designs based in historic farming legacy features in the landscape. The project will facilitate continued stakeholder engagement and education on this restoration approach that will allow for the implementation of these strategies on other properties as appropriate.
- d. Outputs and Deliverables: Expansion of conceptual designs to surrounding public lands of the marsh complex, permit-ready designs, and permitting as well as stakeholder engagement and education that will align our resource managers with lessons learned across the region to advance large scale protection of wetland systems.
- e. Estimated Milestones: Project expected to be completed December 2024
- f. External Constraints: none.
- g. Long Term Outcomes: The benefits of habitat restoration efforts will be seen over a long period of time, but will result in enhancement of existing resources, coastal resilience habitat service, and/or restoration of habitats that have been lost or degraded.
- h. Clean Water Act Core Programs: Wetland Protection

ACTION 31: Use available habitat quality assessment and climate change resiliency tools to prioritize wetland restoration projects identified in the 2020 PEP Habitat Restoration Plan and implement the top projects.

Performance Measure: Complete construction of priority wetland restoration project.

Facilitate Narrow River Wetland Restoration Project

Ongoing

- a. Estimated Budget: Staff time
- b. Partners and their roles: PEP, NYSDEC (Co-Lead/property owner), Town of Southold (Co-Lead/property owner), Ducks Unlimited (Co-Lead),
- c. Description and Objectives: In 2019 PEP completed a conceptual design plan for wetland restoration at Narrow River/Broad Meadows marsh. Narrow River is a tributary of the Peconic Bay and flows south from the Town's Whitcom Marsh Preserve under Route 25 and along the eastern side of Narrow River Rd in Orient, NY. NY State owns most of the properties on the east side of Narrow River Rd and the Town and County own farm land development rights on both sides of the road that includes tributaries to Narrow River. An earthen dam was constructed after the 1938 hurricane to prevent tidal flooding of the lands north of the dam. The western-most section of the dam blocked the tidal flow from Narrow River to the large meadow area north of the dam known as Broad Meadows and Whitcom Marsh Preserve north of Route 25. The dam was modified overtime to include culverts, but these culverts are no longer functioning as originally designed and allow very little water to drain to the south. Additionally, the wetlands north of the earthen dam and culvert to Whitcom Marsh Preserve, which were historically used for duck hunting, are currently choked with *Phragmites*. Remediation of the culvert and earthen

dam is needed to improve the tidal exchange throughout the extent of the river and increase the salinity of the river. These actions will help to eradicate the *Phragmites* and will promote the reestablishment of native vegetation and important waterfowl and wading bird habitat. The potential extent of the restoration area is 80 acres.

- d. **Outputs and Deliverables**: Final engineering design, permitting, and implementation of wetland restoration at site
- e. Estimated Milestones: quarterly project meetings
- f. **External Constraints:** Securing implementation funding could be a challenge due to the high cost of the project and the unique hydrology the project plan presents.
- g. Long Term Outcomes: The benefits of habitat restoration efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
- h. Clean Water Act Core Programs: Wetland Protection

ACTION 33: Implement living shoreline projects, monitor for ecological and financial benefits, and use model projects to educate planners and homeowners on the benefits of living shorelines over hardened shorelines

Performance Measure: Dissemination of monitoring results from two pilot living shoreline projects;

Performance Measure: Development of user-friendly living shoreline guides for homeowners.

ACTION 34: Develop habitat protection and restoration strategies for key species in the Peconic Estuary and its watershed, including the river otter, diamondback terrapin, and horseshoe crab.

Performance Measure: Expansion of monitoring and research for river otters, diamondback terrapins and horseshoe crabs to understand habitat utilization and identify threats to these species.

Performance Measure: Development of estuary-wide habitat protection and restoration strategies for river otters, diamondback terrapins and horseshoe crabs

Continue to expand monitoring of key estuary species and convene a sub-workgroup to develop a habitat restoration and protection strategy for horseshoe crabs. Ongoing

- a. Estimated Budget: Staff time
- b. Partners and their roles: PEP (Lead Partner), Seatuck Environmental Association, CCE, NYSDEC
- c. Description and Objectives: In FY21, the through the Long Island Wildlife Monitoring Network, PEP will continue to expand monitoring of key estuary species, including river otters, diamondback terrapins, and horseshoe crabs (see Outreach and Education Task 4). Additionally, the PEP will convene a sub-workgroup of the NRS to identify current monitoring gaps for horseshoe crabs and work on the development of an estuary-wide habitat restoration and protection strategy. The development of a strategy for horseshoe crabs has been identified as a priority by the NRS. An initial kick-off meeting with the NRS is planned for spring 2021.
- d. **Outputs and Deliverables**: Increase monitoring for key estuary species and development of a habitat restoration and protection strategy for horseshoe crabs in the Peconic Estuary
- e. Estimated Milestones: Meetings with the horseshoe crab sub-workgroup and other relevant partners/stakeholders, as appropriate.

- f. Long Term Outcomes: The benefits of habitat restoration and protection efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
- g. Clean Water Act Core Programs: Wetland Protection

Wildlife Conservation Initiative

Ongoing

- a. Estimated Budget: Staff Time; \$32,500 Local Government funding
- b. Partners and their roles: PEP (Lead Partner), Seatuck Environmental Association, CCE, Stony Brook University, NYSDEC
- c. Description and Objectives: PEP will work with Seatuck to carry out 2023-2024 Otter monitoring and develop a conservation plan for otters in the Peconic watershed. The plan will work with NYSDEC and other partners to develop a series of actions and recommendations for otter conservation. This initiative will also see the coordination of a new Horseshoe crab conservation plan and Seatuck will develop a stakeholder group to work with Cornell Cooperative extension, Stony Brook University, NYSDEC and others to gather data and make initial recomendaitons for moving forward.
- d. **Outputs and Deliverables**: 2023-2024 otter monitoring results, otter conservation strategy, and horseshoe crab stakeholder group, initial horseshoe crab conservation recommendations for next steps.
- e. **Estimated Milestones**: Bi-monthly meetings for otter strategy development; quarterly meetings for horseshoe crab stakeholder coordination.
- f. Long Term Outcomes: The benefits of habitat restoration and protection efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
- g. Clean Water Act Core Programs: N/A

Horseshoe Crab Habitat Site Suitability Review – Bulkhead and Revetment Groundtruthing Ongoing

- a. Estimated Budget: Staff time; \$51,500 NYS funding
- b. Partners and their roles: PEP (Support); Cornell Cooperative Extension (Lead) ; NYS (Funding Body)
- c. Description and Objectives: In 2019, PEP carried outa desk based analysis of hardened shorelines in the Peconic watershed. In order to make initial determinations about which natural shorelines to assess for horseshoe crab habitat prioritization, it is necessary to groundtruth the existing dataset. We will be focusing on the bulkhead and revetments identified in the 2019 study to produce a document which confidently assess the percent of the watershed shoreline that is hardened and that which remains natural shoreline and thus can move forward for sediment analysis as potential horseshoe crab habitat to recommend for protection.
- d. **Outputs and Deliverables**: A final document of groundtruthed hardened shorelines focusing on bulkheads and revetments. GIS layer.
- e. Estimated Milestones: Quarterly meetings and final report
- Long Term Outcomes: Baseline data for horseshoe crab habitat prioritization, A final PEP assessment of natural shorelines vs bulkheaded areas in the marine area (excluding creeks);
- g. Clean Water Act Core Programs: Protecting large aquatic ecosystems

Objective G Expand scientific understanding of the Peconic Estuary ecosystem and deliver information that supports management decision-making

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

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

Sea Turtle and SAV Interactions

Tracking post-release movement patterns of New York's rehabilitated sea turtles provides insights into their utilization of New York waters

New

- a. Estimated Budget: Staff time; \$73,600 (local government funding)
- Partners and their roles: New York Marine Rescue Center (lead), PEP (Support); Local Governments (Funding Body)
- c. Description and Objectives: The aim of this project is to monitor the post-release movement patterns of sea turtles that have been rehabilitated at New York Marine Rescue Center (NYMRC) utilizing satellite tags. Using data obtained from these tags, we seek to further understand sea turtle utilization of New York waters and identify potential important habitats and foraging grounds for four species of turtle. Data obtained from these devices will be able to address action items outlined within the Comprehensive Conservation and Management Plan (CCMP
- d. Outputs and Deliverables: A final document and map based tool to rack interactions.
- e. Estimated Milestones: Quarterly meetings and final report
- f. Long Term Outcomes: Data collected from these tags support the rehabilitation efforts put forth by NYMRC and illustrate the post-release movement behavior of the once stranded sea turtles (Caillouet et al., 2016; Robinson et al., 2020). Data from these turtles provides crucial information on local foraging areas used by these species in New York state and federal waters in the late summer and early fall;
- g. Clean Water Act Core Programs: Protecting large aquatic ecosystems

Aquaculture Impacts Study

Ongoing

- a. Estimated Budget: Phase I: \$150,505 (NYS PEP-EPF Funding); Phase II: \$150,000 (funding NYS)
- b. Partners and their roles: PEP (Lead); Stony Brook ; NYS (Funding Body)
- c. Description and Objectives: Shellfish aquaculture, can provide a range of ecosystem services beyond food supply, such as creating habitat for fish species, augmenting the spawning potential of native shellfish populations, and improving water quality by increasing filter feeder abundance. However, to-date there has been no scientific investigations to evaluate the impact of aquaculture operation on ecosystem function and services in the Peconic Estuary. This is a two part project. The Phase I is outlined here; Phase II will be carried out as a separate project with separate funding (but outlined in this workplan). In Phare I shellfish aquaculture cages may act as artificial reefs, attracting greater numbers of fish than found on bare bottom, but there is currently no data on which species are attracted and to what density, nor an understanding of why fish utilize these structures (e.g., food source, shelter from predation or refuge from current flow). The proposed research will address critical questions raised by regulatory agencies and substantially advance

the understanding of how aquaculture operations influence Peconic fish communities. Phase II will involve the investigation of aquaculture cages and operations and their effect on invertebrates, sediment analysis, and discreet microenvironments in and around aquaculture operations. Funding for Phase II is not yet determined.

- d. **Outputs and Deliverables**: An understanding of the ecology surrounding oyster aquaculture equipment and effects these operations are having on the Bay.
- e. Estimated Milestones: One year report and presentation.
- f. Long Term Outcomes: A better understanding of aquaculture in the Peconic Bays;
- g. Clean Water Act Core Programs: Protecting large aquatic ecosystems

IV. BUDGET DETAILS

Resources Requested

The total requested in this PEP budget to Stony Brook is **\$635,000.** This grant will be complimented by a request for PEP support to Suffolk County Department of Health Services in the amount of **\$215,000** and together these two components make up the full Peconic Estuary Partnership FFY2024 workplan for a total grant request of \$850,000.

Non-Federal Match: NYSDEC and Local Governments will provide **\$635,000** for the Stony Brook RF grant application (CE-96247001-1). Suffolk County will provide **\$215,000** to match the grant application for Suffolk County Department of Health Services (CE -9920022-3).

Travel Costs

Table 5: Trips Anticipated for FFY2024

Date	Meeting/Event	Purpose	Destination	Number of Staff	Estimated Cost
Fall 2024	ANEP Fall meeting	Tech Transfer	New York	4	\$1,000
October 6-10 2024	RAE	Coastal & Estuarine Summit	Washington DC	2	\$4,000
April 2025	LI Natural History	Local Tech Transfer	Long Island	4	\$ 500
Spring 2025	NEP - EPA	EPA HQ	Washington DC	2	\$4,500
10/1-9/30	Local Travel	Partnership	East End of Long Island	5	\$5,700

5Table 6: Trips Taken During FFY2023

Date	Meeting/Event	Purpose	Destination	Number of Staff	Final Cost
23-26 October	REA Living Shoreline Summit	Tech Transfer	Galveston, TX	2	\$2,000
13-17 November	ANEP	Tech Transfer	Portland, OR / Tillamook, OR	2	\$5,000
29 April-3 May	EPA-NEP Annual meeting	Tech Transfer	Washington, DC	2	\$3,000
20-24 May	Santa Monica Bay Program Evaluation	Ex-Officio PE Evaluator	Santa Monica, CA	1	\$2,500

Trips Expected to Occur Between Date of Submission and End of FFY2023 - Local Travel

Detailed Budget

Table 7: Detailed PEP FY24 Budget

Item	Detail	FY24Request	Notes
Personnel		\$355,317	Salaries for Executive Director, Natural Resources Program Manager, Outreach & Communication Manager, Grants Manager, and Coastal Resilience and Communities Coordinator
Salary	\$253,797		
Fringe (40%)	\$101,520		
Travel		\$15,000	See Travel section on page 42
Supplies		\$10,111	
Supplies-General Supplies-Rain Garden	\$5,861 \$4,250		General office, conference table, field gear, etc. Plant material for replacement material and necessary garden tools, soil, etc for raingarden maintenance
Contract		\$35,000	
Staff development and leadership training	\$35,000		Work with a company to carry out a series of staff training that prioritizes team work, conflict resolution, gratitude in the work place, and personal growth
Other		\$97,000	
Website annual costs	\$4,000		Includes costs for printing & production, website update and services, advertising, telephone.
Homeowner Rewards	\$15,000		Mini-Grant Program-item included in total 'Other' request - IDC of 26% is included in the Indirect row
CAST-Stormwater & Education Project	\$20,000		Subaward to CAST for work outlined in this workplan
Annual Water Quality Report	\$35,000		Funds for the Gobler Lab at SoMAS to collect, analyze, and report on annual water quality data
CCMP Tracking and GIS updates	\$12,000		GIS services, server maintenance, and online tracking tool maintenance
Training	\$5,000		Staff related courses and upskilling
MCP Fellowship	\$6,000		Annual PEP Fellowship
Total Direct		\$512,429	
Total Indirect (26%)		\$122,571	Subawards and contracts have 26% applied to the first \$25,000 (CAST & Staff Development)
Total EPA §320 Funds Request		\$635,000	
NYSDEC Match		\$500,000	
East End Town Match		\$135,000	
TOTAL Stony Brook EPA §320		\$1,270,000	
Suffolk County EPA §320 Funds		\$215,000	Funds detailed on Suffolk County Application FY24
Suffolk County Match		\$215,000	Match detailed Suffolk County Application FY24
Total EPA §320 Project Cost		1,700,000	

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