

**FY23 WORKPLAN AND BUDGET**

EPA Grant #: CE- 96247001-0



**Applicant:**

**Stony Brook Research Foundation**

**Submitted by:**

**PEP Management Conference**

**Approved by the Policy Committee**

**May 12, 2023**

**Start Date of Grant**

**October 1, 2023**

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# Peconic Estuary Partnership

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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, 2023.

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 FY23 budget reflects the following sources of funding:

EPA FY23 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 \$680,000 which will be matched at the required 1:1 rate, making the full budget of the Stony Brook award \$1,360,000.

\*EPA FY23 Base funding will be provided to Suffolk County Department of Health Services (SCDHS) in the amount of \$170,000 which will be matched at the required 1:1 rate, making the full budget of the Suffolk County award \$340,000. 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 FY22 ACCOMPLISHMENTS

### Operational Accomplishments

PEP hired a new Natural Resource Program Manager who started in September 2022 which will assist the program office in project management as a result of increased funding and workloads. This role is based at the New York State Department of Environmental Conservation in Kings Park, NY. The Program Support Specialist has undergone a roles and responsibilities review and has changed title to Coastal Resiliency and Community Coordinator – with updated roles that are more suited to daily activities and the growing

work related to the Shoreline Adaptation Initiative and partnership building. The status of other operational activities:

- *PEP Finance Plan submitted to Management Committee*
- *PEP Monitoring Plan submitted to Management Committee*
- *Completed the Tracking System - <https://portal.gss.stonybrook.edu/ccmp/>*

### Local Planning and Policy

PEP continues to play an active role in regional planning for key issues. PEP holds a seat on the NYS Ocean Acidification Task Force, the Building Eelgrass Resiliency Regional Workshop, the Suffolk County Coastal Resilience and Sea Level Rise Task Force, the Suffolk County Pollinator Pathway Taskforce, and 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*

The engineering design for the stormwater management wetland at **Meetinghouse Creek** been submitted to NYS Department of Environmental Conservation for permitting. Meetinghouse Creek is listed as an impaired waterbody on the NYSDEC Priority Waterbodies List. The wetland vegetation at this site is dominated by *Phragmites*, when the leaves shed, it can choke out life in the water, clogging pathways - lowering biodiversity and in some places each fall. This project has been prioritized for funding under the IJAFY22.

We continued our **Homeowner Rewards Program** and **monofilament recycling program**; two long standing programs that serve to not only positively impact the water quality of our watershed but engage multiple communities to educate them about stormwater management and marine plastic pollution.

Monitoring results can be found here:

- SCDHS Surface WQ data: <https://gisportal.suffolkcountyny.gov/gis/home/item.html?id=8107f192ffac406380b6d61d3d3dbf7d>
- SCDHS Beach monitoring data: <https://gisportal.suffolkcountyny.gov/gis/home/item.html?id=025cb4dadb57413980bd7e760b94da8>
- USGS Monitoring stations
  - Riverhead: <https://waterdata.usgs.gov/monitoring-location/01304562/#parameterCode=00003&period=P7D>
  - Shelter Island: <https://waterdata.usgs.gov/monitoring-location/01304650/#parameterCode=00010&period=P7D>
  - Orient Harbor: <https://waterdata.usgs.gov/monitoring-location/01304200/#parameterCode=00003&period=P7D>
- NADP results
  - <https://nadp.slh.wisc.edu/>, <https://nadp.slh.wisc.edu/pubs/Annual-Data-Summaries/>

The PEP Annual Water Quality Report 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 goals for Resilient Communities Prepared for Climate Change, Clean Waters for Ecosystem Health and Safe Recreation, and Healthy Ecosystem with Abundant, Diverse Wildlife over the next decade. (<https://www.peconicestuary.org/peconic-estuary-water-quality-report/>)

### *Eelgrass*

A comprehensive **aerial survey of eelgrass in the Peconic Estuary** is to be carried out in June 2023. 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 QAPP is developed during this reporting period.

### *Aquatic Connectivity Milestones Achieved*

The **Woodhull Fish Passage** was completed in 2022 and opened up 2 miles of river and 95 acres of river herring (Alewife) spawning and maturation habitat on Little River, a tributary to the Peconic River. Funding partners for Woodhull Fish Passage included Suffolk County, NYSDEC, Town of Southampton, USFWS and PEP. Alewife are a critical part of the ecosystem, as food for commercial and recreational fished species. The Woodhull Fish Passage is a combination Denil pass and step pool fish passage with an eel passage, through the dam bypassing the existing culvert. It has a permanent video monitoring system to evaluate diadromous fish activity, and this year is the first year of video analysis at Woodhull. The completion of this passage is of significant ecological importance in years prior a majority of the alewife population that uses the Grangebel fishway, 50,000-80,000 fish, ends up at Woodhull Dam on Little River, spawning below the dam each year in a stalled effort to reach upstream habitat.

PEP worked with our local Suffolk County legislators to formally rename the fish pass: **The Byron Young Fish Passage**, a proclamation to name the site after Byron Young, retired NYSDEC fish biologist of 33 years, in dedication of his hard work and championing of the fish passages in the Peconic River over the years.

The **Forge Road Dam Fish Passage** was completed in January 2023 and led by our partners at the Town of Brookhaven. Forge Road Dam Fish Passage opened up 2 miles of river and 115 acres of diadromous spawning and maturation habitat on the main stem of the Peconic River. Only one barrier remains 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 a land-use agreement to allow for the construction of the fish pass at this site.

The **Alewife Creek – Noyac Road** culvert project to improve aquatic connectivity has completed survey, designs, and permits. The engineering design and construction of the Alewife Creek Habitat Enhancement project 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. The Town of Southampton is securing implementation funds and expects construction to begin in Summer 2023.

### *Wetland Project Progress*

PEP has continued its partnership with stakeholders of East Hampton Town’s **Accabonac Harbor**. PEP is moving forward in contracting \$150,000 of Suffolk County Capital funding to work with representatives of SMARTeams (regional experts that have developed this emerging, minimally invasive wetland restoration technique)

The **Paul Stoutenburgh Habitat Restoration Project** is ongoing. AKRF Team has completed an assessment of the hydrology of the southwest portion of the Paul Stoutenburgh Preserve.

### *Coastal Vulnerability*

**Shoreline Adaptation Initiative & Work Group:** In partnership with New York Sea Grant (NYSG), PEP program office is co-chairing a collaborative initiative and workgroup devoted to moving Long Island forward in the realm of living shoreline implementation and nature based adaptations. Coordination of meetings and participation has begun for both groups.

**2023 Marine Conservation Policy Fellowship** After receiving many applications, PEP program staff scored applications, and awarded the 2023 MCP fellowship to a masters student with interest in policy and permitting surrounding coastal resilience. This student’s graduate-level project is being focused under the mentorship of NY SeaGrant and PEP program office to create a document or tool to assist the Shoreline Adaptation Initiative and Shoreline Decision Workgroup.

**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 are to be announced formally at the May 11th, PEP Biennial conference and four mini grants of \$24,000 will be awarded to top scoring applicants.

### Outreach Accomplishments

#### *Community Science Long Island Webinar Series*

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. PEP organized and hosted the Ospreys and Eagles Webinar on October 10, 2022. (<https://seatuck.org/community-science-webinars/>).

#### *Winter Walk Series with Peconic Estuary Partnership and Peconic Baykeeper*

The Peconic Estuary Partnership and Peconic Baykeeper hosted our first Winter Walk Series. Nature walks were held on the second Friday of the month, December 2022 through March 2023, at different parks throughout 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/>).

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*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 with 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.

*PEP Biennial Conference – Resilient Communities Prepared for Climate Change*

PEP will hold our Biennial Conference on May 11, 2023. We are celebrating the 30th anniversary of the Peconic Estuary’s National Estuary Program, and focusing on the CCMP Goal of Resilient Communities Prepared for Climate Change.

*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 (<https://www.peconicestuary.org/what-you-can-do/homeowner-rewards-program/>) into the other watersheds on Long Island. This partnership will continue through the next year as we move this initiative forward.

Two pilot projects for expanded **rain garden pilot projects** will take place in 2023, one at a school in Southold and one in partnership with the Center for Advocacy, Support, and Transformation (CAST). The installment of rain gardens at these locations will mitigate pollution from runoff, increase native plant habitat, and most importantly include students and under served communities to educate them on the estuary health and importance of such projects.



### III. FY23 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 FY23 \$320 budget requests to support the Peconic Estuary Partnership Office to implement the CCMP. Costs include salary and fringe.

##### **Program Office Staff Total Cost: \$366,387**

##### **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.

##### **Water Quality Program Manager**

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

Responsibilities: Leads existing and develops new water quality related projects in the watershed and acts as support for a variety of other projects carried out by the program office. Works closely with Suffolk County to coordinate water quality projects

##### **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 Coordinator**

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 (\$57,103) -No Federal Request**

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 Adaptation and Community 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 coastal adaptation impacts and assist local governments in finding solutions.

**Table 1:** PEP Budget Summary (Budget Details listed on page 40)

	<b>FY23 Request</b>	<b>Notes</b>
Personnel (salary & fringe)	\$366,387	See Budget Details on page 40
Travel	\$22,000	See Travel section on page 39.
Equipment	5,000	Conservation Moorings
Supplies	\$5,859	
Other	\$37,500	Includes costs for printing & production, website development and services, advertising, Homeowner Rewards, IDEAs Fishing Program, and ANEP Communications. See Budget details on page 37 for all items.
<i>Sub-Awards</i>	\$105,000	Wildlife Conservation Plan (p 40); PEP Mini-Grant
<b>Total Direct</b>	<b>\$541,746</b>	
<i>Indirect (26%)</i>	<i>\$138,254</i>	<i>No IDC applied to equipment. IDC on contracts and subawards is 26% on the first \$25,000</i>
<b>Total EPA §320 Funds Request</b>	<b>\$680,000</b>	
NYSDEC Match	\$500,000	
East End Town Match	\$180,000	
<b>TOTAL EPA §320 AWARD</b>	<b>\$1,360,000</b>	
Suffolk County EPA §320 Funds Request	\$170,000	These funds will be detailed on the Suffolk County Grant Application for FY23
Suffolk County Match	\$170,000	This match will be detailed on the Suffolk County Grant Application for FY23
<b>Total Project Cost</b>	<b>1,700,000</b>	

## FY23 Workplan

This workplan includes all projects which PEP plans to be involved with in the coming fiscal year. Since FY22 projects that are funded under the Bipartisan Infrastructure Law (IIJA) will be included in this workplan but no details will be provided. Full details of the IIJA projects will be included in the IIJA workplans (IIJA2, IIJA23, 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 will submit an Equity Strategy and Five- Year Plan related solely to the IIJA 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 FY23 §320 projects are identified in Table 2 with funding sources clarified. Ongoing FY23 §320 projects that use previous years’ (FY18-FY22) funding and staff time for FY23 are identified in Table 3. The projects approved by the PEP Management Conference to be funded with the IIJA 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.

**Table 2:** Summary of New Projects and CCMP Actions

Project	CCMP Action	Primary Funding Body	PEP Role	Funding requested from FY23 §320 award
GIS Water Quality App and Platform	Actions 16 & 17	Local Governments (\$27,654)	Co-Lead with Stony Brook	Staff Time
Three Mile Harbor PRB Monitoring at Tanbark Creek	Action 18	Local Government (\$50,132)	CCE/EH Lead	Staff Time
Microplastic Investigation	Action 22	NYS (\$120,744); EEEEI (\$75,000)	Stony Brook Lead-PEP Support	Staff Time
HABs in PEP Embayments	Action 19	NYS \$110,000	Co-Lead	Staff Time
Alewife Monitoring- Woodhull and Grangebel	Action 29	NYS \$12,600	SCCC Lead	Staff Time
Eelpass Installation at Bridal Falls-Grangebel	Action 29	Local Governments \$1,966	PEP-Seatuck	Staff Time
Aquaculture Impacts	Action 26	NYS EPF FY22 (\$150,505) + NYS EPF FY23 \$150,000	Co-Lead	Staff Time
Horseshoe Crab Habitat Site Suitability Review – Bulkhead and Revetment Groundtruthing	Action 33 & 34	NYS \$51,500	CCE Lead	Staff Time
Wildlife Conservation Initiative (Otter Strategy and Horseshoe Crab Plan facilitation)	Action 34	EPA	Co-Lead with CCE and Seatuck	\$36,500

Mini-Grant FY23	Goal: Clean Water	EPA; Local Government (\$31,500)	Multiple-PEP Lead	\$94,500
Eelgrass Aerial Flyover and ground truthing	Action 12 & 30	NYS (FY19) \$120,000; Local Government FY23 (\$47,000)	PEP/NYS/CCE/URI/USGS	Staff Time
Eelgrass Historical Story Map and time-series maps	Action 12 & 30	Local Government \$32,038	PEP Lead / Stony Brook / CCE	Staff Time
SAV Strategy, Training, and Coordination	Action 30	NYS & Local Governments \$192,560	PEP, NYSDEC, Dr Lefcheck	Staff Time
CCMP Aligned Fellowship Project TBD	All	Local Government \$6,000	Co-Lead with Stony Brook	Staff Time
Shoreline Adaptation Workshops	Goal: Resilient Communities	Local Government \$10,000	Co-Lead with Sea Grant	Staff Time

**Table 3:** Summary of Ongoing projects and CCMP Actions

Description	CCMP Action	Primary Funding Body	PEP Role	Funding requested from FY23 \$320 award
CCMP Continuous Tracking and GIS needs	Action 2	EPA	Co-Lead with Stony Brook	\$12,000
Mini-Grant FY22	Goal: Resilient Communities	EPA FY22 (\$97,964); Local Governments FY22 (\$20,896)	Lead	Staff Time
Submarine Groundwater Discharge Siting Tool	Clean Waters Research Priority	Local Governments FY22 (\$55,000)	Co-Lead	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.	Action 11	EPA; Local Governments	Lead	Staff time
Shoreline Adaptation	Actions 11, 14, 33	EPA; NYS EPF FY22(\$40,291); Local Governments FY22 (\$8,000)	Co-Lead	Staff-time
State of the Estuary	Action 3	Local Governments (FY22 \$10,000)	Lead	Staff Time
NYS Ocean Acidification Taskforce – National Ocean Acidification Network	Action 13	EPA; NYS	Supporting partner	Staff time
Continuous Water Quality Monitoring (USGS)	Action 16 & 18	NYS (\$177,736); 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	NYSDEC	Supporting partner	Staff time
Subwatershed Plan	Action 18	Suffolk County	Supporting partner	Staff time
Upper Mills Fish Pass – Land Use Agreement	Action 29	EPA	Lead	Staff Time

Description	CCMP Action	Primary Funding Body	PEP Role	Funding requested from FY23 \$320 award
Village of Greenport Sewer Extension	Action 18	Sterling Harbor Marina; NYSREDC, Greenport (\$390,000)	Supporting partner	Staff time
Non-Point Source reduction-Green Infrastructure Homeowner Rewards Program and school pilot	Action 18	Local Government (\$24,000)	Lead	Staff time
PEPC	Action 21	Local Governments (\$56,000)	Supporting partner	Staff time
Meetinghouse Creek Engineering Design Services *NEIWPC	Action 21	EPA (\$150,000)	Lead partner + Town of Riverhead	Staff time + FY18 and FY19 \$320 funds
Ecosystem-Based Model of the Peconic Estuary	Action 23	NYS (\$200,000-FY19)	Lead partner + Stony Brook University and NYSDEC	Staff time
Peconic River Fish Pass – Upper Mills	Action 29	Suffolk County; NYSDEC, LIPA/PSE&G	Lead partner	Staff time
Big Reed Pond (Lake Montauk) – Fish Pass	Action 29	Suffolk County (\$50,000)	Co-Lead	Staff Time
Alewife Creek Fish Pass	Action 29	Southampton	Partner	Staff Time
Carry out Eelgrass Aerial Survey Ground Truthing	Action 30	NYS (\$130,000)	Co-lead partner with LISS and NYSDEC.	Staff time
Living Shoreline Stakeholder Education	Action 33	NYS (\$46,742)	Co-lead partner with NYS Sea Grant and NYSDEC	Staff time

**Table 4: Summary of Projects for IJJA Funds**

**IJJA23**

Description	CCMP Action	Primary Funding Body	PEP Role	Funding Requested FY22 IJJAaward
Personnel and associated costs	Action 21	EPA/IJJA		\$296,800
Broad Cove	Action 21	EPA/IJJA	Peconic Land Trust and PEP co-lead	\$156,500
Riverside Wetland Concept		EPA/IJJA	Town of Southampton and PEP co-lead	\$106,500
Blue Carbon - East	Action 29	EPA/IJJA	Co-lead with Stony Brook Team	\$300,000
Suffolk County Septic Improvement LMI		EPA/IJJA	Suffolk County; PEP support	\$50,000

**IIJA22**

Description	CCMP Action	Primary Funding Body	PEP Role	Funding Requested FY22 IIJA award
Village of Sag Harbor Stormwater Remediation Green Infrastructure Project	Action 21	EPA/IIJA	Co-lead with Village of Sag Harbor	\$215,000
Town of Southold, Goose Creek Sub-Catchment Drainage Outfall Removal	Action 21	EPA/IIJA	Co-lead with the Town of Southold	\$100,000
Meetinghouse Creek Stormwater Wetland Construction	Action 29	EPA/IIJA	Co-lead with Town of Riverhead	\$600,000

**FY23 Projects**

**CCMP GOAL: STRONG PARTNERSHIP AND ENGAGEMENT**

**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

- a. **Estimated Budget:** \$12,000
- b. **Partners and their roles:** PEP (Lead); Stony Brook
- c. **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.
- d. **Outputs and Deliverables:** Maintenance of the on-line tool for tracking CCMP success. Up-to-date maps of program work products.
- e. **Estimated Milestones:** Bi-Annual updates with project maps provided as needed.
- f. **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.
- g. **Clean Water Act Core Programs:** N/A

**ACTION 3:** Develop and implement a State of the Peconic Estuary reporting process.

**Performance Measure:** Analysis of ecological and social indicators every five years and the production of a State of the Peconic Estuary report

## State of the Estuary – Status and Trends Report

### On-Going

- a. **Estimated Budget:** Staff time; \$10,000 (FY22)(Local Governments)
- b. **Partners and their roles:** PEP (Lead); Local Governments
- c. **Description and Objectives:** In 2015, PEP completed an Ecosystem Status Report and in 2021 PEP released the inaugural Water Quality Report. In FY22 PEP will produce a State of the Estuary Report which will bring together the updated Ecosystem Status and Water Quality reporting in one State of the Estuary Report.
- d. **Outputs and Deliverables:** State of the Peconic Estuary Report
- e. **Estimated Milestones:** The TAC will guide this report under the continuing advice of the Water Quality Management Collaborative.
- f. **Long Term Outcomes:** A greater public understanding of the Habitat, Wildlife, and Water in the estuary and local governments will have a tool to base management decisions and funding for priority projects in their municipalities
- g. **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

### New

- 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:** PEP, as part of the CCMP will develop a Communication Strategy to 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.
- 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

#### Ongoing and New

- a. **Estimated Budget:** Staff Time
- 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:** weather and community willingness to participate sometimes effect success
- 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

### *NYSDEC IFish Program*

#### New

- a. **Estimated Budget:** Staff Time; \$3,000
- b. **Partners and their roles:** PEP (co-lead), NYSDEC (co-lead), Community Groups
- c. **Description and Objectives:** PEP and DEC organize 1-3 days of fishing for underserved communities, targeting non-native English speaking and non-English speaking communities. PEP and DEC will provide all fishing equipment and shore-based learning.
- d. **Outputs and Deliverables:** Safe and healthy recreation and supporting water-based activities for local communities.
- e. **Estimated Milestones:** 1-3 events
- f. **Long Term Outcomes:** A more educated and more diverse community base. Education of the Peconic coastline
- g. **Clean Water Act Core Programs:** All

### PEP Outreach – Nutrient Reduction Concentration

#### New

- a. **Estimated Budget:** \$57,103 (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
- h. **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.

### PEP – Marine Conservation & Policy Fellowship

#### Ongoing-New Funding and Research Topic

- a. **Estimated Budget:** \$6,000 (Local Government Funds)
- 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 will work with local governments, PEP, and Sea Grant to develop modal codes and highlight barriers to meaningful nature-based coastal adaptation. The FY23 project will be determined by the program office in conjunction with Committee Chairs as relevant.
- 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-New Funding and CCMP Theme

- 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 work will be partially dependent on contracting through the local

governments and this may pose delays for PEP.

- 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

### Shoreline Adaptation Initiative

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:** PEP and Sea Grant will establish two separate workgroups to strategize and make decisions about coastal adaptations on the East End of Long Island. One workgroup will be a Coastal Adaptation Advisory Workgroup where decision makers in the watershed will work together to review existing barriers to protecting natural shorelines, strategies to make the use of nature-based solutions viable and strategies for communication between decision making bodies going forward. Entities to be targeted for this workgroup will include NYSDEC, NYSDOS, Suffolk County, and East End Town Representatives. The second workgroup will be a PEP-Sea Grant Shoreline Adaptation which will model the existing framework for PEP Committees and include communities, civic associations, NYS, Suffolk County, and Local Government representation, and any interested members of the public. This group will focus on the communication of current shoreline adaptation methods, presentations of successful models of nature-based solutions and general outreach around the myriad of coastal related issues we face in the watershed. Additionally, this project will include an annual conference and workshops to disseminate information, outreach materials, expert speakers from the North-East and Mid-Atlantic regions of the U.S.
- d. **Outputs and Deliverables:** Regular frequency of meetings for the two workgroups, strategy/guidance document for advisory recommendations, outreach materials, two large-scale workshops and conference.
- e. **Estimated Milestones:** Annual workshop and conference
- f. **Long Term Outcomes:** State, County, and local governments working together to make decisions about regional shoreline adaptation planning that prioritizes conserving natural shorelines. A more informed public about coastal vulnerability 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 coastal resiliency. See here for the CLPS story map and tool:<https://gis.anchorqea.com/PeconicEstuaryCLPS/>. 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.
- e. **Clean Water Act Core Programs:** N/A

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

**Performance Measure:** Participation with the New York Ocean Acidification Task Force to monitor and address ocean acidification locally and regionally.

NYS Ocean Acidification Taskforce – National Ocean Acidification Network

Ongoing

- a. **Estimated Budget:** Staff time
- b. **Partners and their roles:** PEP (Supporting Partner), NYSDEC (Lead Partner)
- c. **Description and Objectives:** PEP’s local and regional partners will work together to ensure that the best available science is used to assess and respond to this emerging threat to NY’s estuarine and marine waters and fisheries. PEP will participate on the NY Ocean Acidification (OA) Task Force and act as a NEP coordinator for NY State and participate on the Mid-Atlantic Taskforce.
- d. **Outputs and Deliverables:** Collaborative document regarding NYS OA policy and the Mid-Atlantic Region.
- e. **Estimated Milestones:** NY OA Task Force Meetings as scheduled, Initiation of a NY NEP/EP Workgroup for OA collaboration in the region.
- f. **Long Term Outcomes:** A cohesive and collaborative approach to OA mitigation in New York. 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

- a. **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 Peconic River in [Riverhead](#), one in [Orient Harbor](#), and one on [Shelter Island](#). 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 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:** Contract is between NYSDEC and USGS, PEP staff provide additional support as needed throughout the year.
- 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 App and Data Platform

New

- a. **Estimated Budget:** \$27,654 (Local Government).
- b. **Partners and their roles:** Stony Brook Geospatial Center, Suffolk County, USGS, Cornell Cooperative Extension, and NYSDEC
- c. **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.
- d. **Outputs and Deliverables:** An app that is user friendly and helps people make more informed decisions.
- e. **Estimated Milestones:** Data collection and collation and then app development and release.
- f. **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.
- g. **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, Suffolk County (FY20 SC grant)
- 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, completion of annual 2021 and 2022 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:** Strategy Plan with LINAP identifying areas for collaboration.
- 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

- b. **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 Fall 2023. In FY22, finalize report and disseminate and communicate results to stakeholders.
- f. **External Constraints:** Covid19 caused delays in this project and our original completion date has been extended.
- 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

- a. **Estimated Budget:** \$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:** A monitoring plan will be developed. Sampling will 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) – Using this as a basis for priority embayments

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.
- l. **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.

### Village of Greenport Sewer Extension

Ongoing

- a. **Estimated Budget:** Staff time, 2019 NYS Empire State Development Grant \$390,000
- b. **Partners and their roles:** PEP (Supporting Partner), Village of Greenport (Lead Entity), Safe Harbor Marina (Lead Entity, Property owner).
- c. **Description and Objectives:** The Village of Greenport will design and construct an expansion of their municipal sewer system to the marina and homes within the Stirling Basin, reducing current nitrogen pollution input to the nearby Peconic Estuary. PEP will assist the project lead in identifying and applying for funding, coordinating all parties in meetings and updates, and assisting the Village of Greenport as needed and appropriate, coordinating all parties in meetings and updates, and assisting the Village of Greenport as needed and appropriate.
- d. **Outputs and Deliverables:** Engineering design plans for sewer extension project. Additional funding sources identified for construction phase.



- e. **Estimated Milestones:** Engineering and design planned to be completed in 2023.
- f. **Long Term Outcomes:** Reduction of nitrogen into Peconic Bay.
- g. **External Constraints:** This project has secured \$390,000 in grant funding from NYS. It will require significantly more funding for the construction. PEP will assist the project lead in identifying and applying for funding but substantially more funding is currently required. The project has had extreme delays due to the Village of Greenport securing the necessary permissions and funding to complete the project.
- 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, 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:** \$8,500 (EPAFY23 Homeowner Rewards);\$24,000 (FY22 Government Funds)
- 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 [Peconic Estuary Partnership \(PEP\) Homeowner Rewards Program](#) 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.

**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

- a. **Estimated Budget:** \$110,000 (NYS Funds)
- b. **Partners and their roles:** PEP (Lead); Stony Brook; NYS (Funding Body)
- c. **Description and Objectives:** In FY22 Stony Brook University completed the initial study which have 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 acuminata* 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 will 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.

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.

### Meetinghouse Creek –Engineering and Permits

Ongoing (FY18 Workplan and Budget – all funds with NEIWPC)

- a. **Estimated Budget:** \$320 funds: \$150,000 (from FY18 - Funds with NEIWPC)
- b. **Partners and their roles:** PEP (Lead Partner), Town of Riverhead (Property Owner, Engineering Supervision), NEIWPC (Contracting entity)
- c. **Description and Objectives:** PEP completed a Conceptual Habitat Restoration Design for the Meetinghouse Creek project in 2019. The conceptual design recommendation is to construct a 1.2-acre stormwater wetland to treat stormwater runoff in the 5.6 acre contributing watershed. This will improve water quality in the downstream wetland and surface waters. Additionally, it will greatly increase the ecological quality of the habitat and improve plant and wildlife diversity. This site is located at a large wetland area that forms the headwaters to Meetinghouse Creek in Riverhead, New York. Meetinghouse Creek is listed as an impaired waterbody on the NYSDEC Priority Waterbodies List. The wetland vegetation at this site is dominated by *Phragmites*. Engineering design and permitting services were initiated for the project in FY20. There have been delays - PEP does not manage this contract.
- d. **Outputs and Deliverables:** QAPP, final design, and permitting for the Meetinghouse Creek Main Road Wetland Construction/Restoration project.
- e. **Estimated Milestones:** Contract was due to begin in Spring 2020 but was delayed due to COVID-19. This work was re-bid in October 2020 with a contractor in place by January 2021. Project delays occurred due to acquiring sub-contractors and we anticipate permitting to be lengthy.
- f. **Long Term Outcomes:** This project will greatly increase the ecological quality of the habitat and improve plant and wildlife diversity. This site is located at a large wetland area that forms the headwaters to Meetinghouse Creek in Riverhead, New York. Meetinghouse Creek is listed as an impaired waterbody on the NYSDEC Priority Waterbodies List. The wetland vegetation at this site is dominated by *Phragmites*.
- g. **External Constraints:** PEP does not manage this contract, delays are beyond our control.
- h. **Clean Water Act Core Programs:** Protecting Wetlands. 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.

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

### Microplastics in the Peconic Estuary

New

- a. **Estimated Budget:** \$75,000 (EEEEI); \$120,744 (NYS)
- 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 PEP EPF 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.
- l. **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 is behind schedule due to Covid-19 delays and staff turn-over
- 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 Grangebél Park.
- e. **Estimated Milestones:** Land Use Agreement for Upper Mills Fish Pass by Summer Fall 2023, secure construction funds by March 2024.
- 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 Grangebél Park, Riverhead*

New

- a. **Estimated Budget:** \$1,966 (Local Government); Staff Time
- b. **Partners and their roles:** PEP (Lead); Suffolk County; Town of Riverhead, Seatuck Environmental, Long Islad 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

- h. **Estimated Budget:** Staff Time
- i. **Partners and their roles:** PEP (Lead); Suffolk County; Town of Riverhead, PSE&G/LIPA
- j. **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.
- k. **Outputs and Deliverables:** A signed land use agreement by all necessary parties.
- l. **Estimated Milestones:** PEP will carry out meetings as necessary and liaise with all entities to ensure this agreement moves forward.
- m. **Long Term Outcomes:** A legal agreement to allow for the construction of the fish ladder at Upper Mills
- n. **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.

### *Lake Montauk –*

Restoration of connectivity for diadromous fish species between Lake Montauk and Big Reed Pond by replacing an undersized culvert Suffolk County Capital funds have been secured to replace the culvert that leads to Big Reed Pond. The survey work related to the design have been complete and PEP is in contract with Land Use Ecological to complete engineering design. Suffolk County will carry out construction.

PEP staff anticipates working with Suffolk County parks to complete the permitting and construction of this project in FY23.

**Estimated Budget:** Staff time, \$50,000 2016 Suffolk County Capital Budget Funds. \*COVID19 funding delays.

**External Constraints:** This project will be contracted through Suffolk County Parks and they currently have limited staff to oversee construction works. This may cause a delay in the contracting process based on priorities identified by Suffolk County in the next two years.

*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

On-going

- a. **Estimated Budget:** Staff time, Supply funds (EPA \$500)(NYS \$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 PEP EPF 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), Cornell Cooperative Extensive (Contracting Entity)
- 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:** Continued delays in NYS Funding has delayed this project several years, however, this project will move forward in 2023.
- 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

New

- a. **Estimated Budget:** Staff time; \$49,500 Local Government
- b. **Partners and their roles:** PEP (Co-Lead Partner), Cornell Cooperative Extensive (Contracting Entity)
- c. **Description and Objectives:** Coordinate with University of Rhode Island to carry out the ground truthing 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:** Ground truthing expected to be completed fall 2023. Analysis and reporting expected to be completed Winter 2024.
- f. **External Constraints:** Continued delays in NYS Funding has delayed this project several years, however, this project will move forward in 2023.



- 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

New

- a. **Estimated Budget:** Staff time; \$32,038 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.
- 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

New

- a. **Estimated Budget:** Staff time; \$192,560 (\$92,560 Local Government) (\$100,000 NYS)
- b. **Partners and their roles:** PEP (Lead Partner), Dr Jonathan Lefcheck at University of Maryland Center for Environmental Science (Subaward)
- 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 Drs Brad Peterson and 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

Implement priority wetland restoration projects identified in the PEP Habitat Restoration Plan

*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. Contracting delays persist.
- 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

**Performance Measure:** Complete construction of priority wetland restoration project at Indian Island to restore five acres of habitat

*Complete Construction of Indian Island Wetland Restoration Project*  
Ongoing

- a. **Estimated Budget:** 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
- 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 2023
- 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

#### *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), TNC (Supporting Partner)
- 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 re- establishment 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

*Complete engineering designs and construction of the Cedar Beach Creek Wetland Restoration to restore 5 acres of wetland habitat*

Ongoing

- a. **Estimated Budget:** Staff time; \$728,782 United States Army Corps of Engineers (USACE) funding.
- b. **Partners and Roles:** CCE (Lead Partner), PEP (Supporting Partner), NYSDEC, Town of Southold
- c. **Description and Objectives:** The Cedar Beach Creek Habitat Restoration Demonstration Project will restore local essential ecosystem functions in a degraded marsh system. It will create numerous marsh islands from the beneficial reuse of clean dredge material, planting of submerged aquatic vegetation (*Ruppia maritima*), and oysters (*Crassostrea virginica*) into a complex marsh, beach, and open water mosaic. Cedar Beach Creek is productive for marine finfish, shellfish, and other wildlife and contributes significantly to the biological productivity of Noyack Bay.
- d. **Outputs and Deliverables:** Final engineering design, permitting, and implementation of wetland restoration at site
- e. **Estimated Milestones:** Project stakeholder meetings, completion of engineering design.
- f. **External Constraints:** This has been heavily delayed. The permitting of this project is not yet complete and has delayed the project severely. At this time NYSDEC has not yet issued a permit for this work and it is unclear if this will move forward
- 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.

Shoreline Adaptation Initiative

Ongoing

- a. **Estimated Budget:** Staff time; (\$80,000 NYS Funds FY22); (\$10,000 Local Government FY23)
- b. **Partners and their roles:** PEP (Co-Lead Partner), NYS DEC (funding entity), NY Sea Grant (contracting entity).
- c. **Description and Objectives:** The PEP working with the NYSDEC and NY Sea Grant, is developing living shoreline outreach materials and planning educational workshops to encourage the appropriate use of living shorelines in place of hardened approaches for erosion control, and encourage, where appropriate, modification of existing shoreline erosion control structures into

living shorelines. The living shoreline outreach materials and workshops will provide information on the benefits of living shorelines, information on the projects established in the Peconic Estuary and the region, and information on how a stakeholder could establish a living shoreline. Details of the task scope are being finalized.

- d. **Outputs and Deliverables:** Living shoreline outreach materials for stakeholders and hold up to four workshops for property owners, contracting entities, and municipal staff in the Peconic Estuary watershed.
- e. **Estimated Milestones:** Finalize contracts with Sea Grant by In FY21. Kick-off project in FY22.
- f. **External Constraints:** Continuous funding is uncertain annually.
- g. **Long Term Outcomes:** Municipalities and communities will have increased communication regarding coastal resiliency methods, the appropriateness of using these methods and higher symmetry and coordination will exist between decision makers and communities regarding shoreline adaptation and the importance of natural shorelines when appropriate.
- h. **Clean Water Act Core Programs:** Wetland Protection

**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*

New

- a. **Estimated Budget:** Staff Time; \$36,500
- 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 recommendations 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*

New

- a. **Estimated Budget:** Staff time; \$51,500 NYSEPF
- b. **Partners and their roles:** PEP (Support); Cornell Cooperative Extension (Lead) ; NYS (Funding Body)
- c. **Description and Objectives:** In 2019, PEP carried out a 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
- f. **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

## Aquaculture Impacts Study

Ongoing

- h. **Estimated Budget:** Phase I: \$150,505 (NYS FY22); Phase II: \$150,000 (NYSFY23)
- i. **Partners and their roles:** PEP (Lead); Stony Brook ; NYS (Funding Body)
- j. **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 Phase 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.
- k. **Outputs and Deliverables:** An understanding of the ecology surrounding oyster aquaculture equipment and effects these operations are having on the Bay.
- l. **Estimated Milestones:** One-year report and presentation.
- m. **Long Term Outcomes:** A better understanding of aquaculture in the Peconic Bays;
- n. **Clean Water Act Core Programs:** Protecting large aquatic ecosystems

## BUDGET DETAILS

### Resources Requested

The total requested in this PEP budget to Stony Brook is **\$680,000**. This grant will be complimented by a request for PEP support to Suffolk County Department of Health Services in the amount of **\$170,000** and together these two components make up the full Peconic Estuary Partnership FFY2023 workplan for a total grant request of \$850,000. Tables 5 and 6 detail travel and Table 7 details the total FFY23 budget.

**Non-Federal Match:** NYSDEC and Local Governments will provide **\$680,000** for the Stony Brook RF grant application (CE-96247001-0). Suffolk County will provide **\$170,000** to match the grant application for Suffolk County Department of Health Services (CE -9920022-2).

**Table 5:** Trips Anticipated for FFY2023

Date	Meeting/Event	Purpose	Destination	Number of Staff	Estimated Cost
Fall 2023	ANEP Fall Meeting/CERF	Tech Transfer	Portland, OR	3	\$7,800
April 2024	LI Natural History	Local Tech Transfer	Long Island	5	\$ 400
Spring 2024	ANEP - EPA	EPA HQ	Washington DC	4	\$6,000
10/1-9/30	Local Travel	Partnership	East End of Long Island	5	\$7,800

**Table 6:** Trips Taken During FFY2022

Date	Meeting/Event	Purpose	Destination	Number of Staff	Final Cost
Nov 1	NYS Tidal Restrictions Protocol	Tech Transfer	NYC	2	\$350
Dec. 2-7	ANEP /RAE	Tech Transfer	New Orleans	5	\$10,000
March 20-24	EPA/NEP	NEP meeting	Washington DC	2	\$3,500
Feb 8-10	American Fishery Society (NY Chapter)	Tech Transfer	New York	1	\$400

### Trips Expected to Occur Between Date of Submission and End of FFY2022 - Local Travel Only



**Table 7:** Detailed PEP FY23 Budget

Item	Detail	FY23 Request	Notes
<b>Personnel</b>		<b>\$366,387</b>	Roles detailed on page 9
	<b>Total Salary</b>	<b>\$258,930</b>	
	<b>Total Fringe</b>	<b>\$107,457</b>	
	<i>Executive Director</i>	<i>\$133,727</i>	Salary + Fringe (40 %)
	<i>WQ Program Manager</i>	<i>\$120,960</i>	Salary + Fringe (40 %)
	<i>Natural Resources Program Manager</i>	<i>\$40,008</i>	Salary + Fringe (40 %)
	<i>Outreach Coordinator</i>	<i>\$51,799</i>	Salary + Fringe (40 %)
	<i>Coastal Adaptation and Community Coordinator</i>	<i>\$19,894</i>	Salary + Fringe (40 %)
Travel		<b>\$22,000</b>	See Travel section on page 40
Equipment		<b>\$5,000</b>	Conservation Moorings for Eelgrass beds
Supplies		<b>\$5,859</b>	Alewife monitoring, Outreach events, general office supplies
Contract		<b>\$0</b>	
Other		<b>\$142,500</b>	
	<i>Homeowner Rewards</i>	<i>\$8,500</i>	PEP Homeowner Rewards Program (p.25)
	<i>Wildlife Conservation Strategy Development</i>	<i>\$30,000</i>	Development of an Otter Conservation Strategy and the facilitation of the Horseshoe Crab Conservation initiative. (p38). IDC of 26% applied to the first \$25,000, and included in Total IDC
	<i>Other-General</i>	<i>\$10,000</i>	Includes costs for printing & production, website update and services, advertising, telephone.
	<i>PEP Mini Grant Program</i>	<i>\$75,000</i>	Mini-Grant Program (p.17) - item included in total 'Other,' IDC included in <i>Total IDC</i>
	<i>IDEAs Fishing Program</i>	<i>\$3,000</i>	Item included in total 'Other' request (detail p.16)
	<i>CCMP Tracking and GIS updates</i>	<i>\$12,000</i>	Item included in total 'Other' request (detail p.14)
	<i>ANEP Communication Services</i>	<i>\$4,000</i>	Item included in total 'Other' request
	<b>Total Direct</b>	<b>\$541,746</b>	
	<b>Total IDC</b>	<b>\$138,254</b>	
	<b>Total EPA §320 Funds Request</b>	<b>\$680,000</b>	
	NYSDEC Match	\$500,000	
	East End Town Match	\$180,000	
	<b>TOTAL Stony Brook EPA §320</b>	<b>\$1,360,000</b>	
	Suffolk County EPA §320 Funds	\$170,000	Funds detailed on Suffolk County Application FY23
	Suffolk County Match	\$170,000	Match detailed Suffolk County Application FY23
	<b>Total Project Cost</b>	<b>1,700,000</b>	