FY21 WORKPLAN AND BUDGET
EPA Grant #: CE-#99200221

Applicant:
Suffolk County Department of Health Services

Submitted by:
PEP Management Conference

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Amended Feb 2024
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Peconic Estuary Partnership

FY21 WORKPLAN AND BUDGET

TABLE OF CONTENTS

Contents

I. INTRODUCTION

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. The current hosts of the program are SCDHS and SUNY Stony Brook Research Foundation. In 2019, the Peconic Estuary Program was re-named the Peconic Estuary Partnership (PEP) to more accurately reflect the varied partnerships that allow the NEP to thrive.

In 2020, the PEP has finalized the update of the Comprehensive Conservation Management Plan (CCMP), the guiding document which outlines a series of Four Goals, Eight Objectives, and 35 Actions to guide the work of the partnership through the next ten years. This plan was approved by the PEP Management Conference and received concurrence by EPA Region 2 Administrator and EPA Headquarters. The 2020 CCMP Goals are 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 FY21 budget reflects the following sources of funding:

EPA FY21 Base Funding:	$700,000.00*
Non-Federal Match:	$700,000.00**
Total:	$1,400,000.00

Resources Requested:

The total Section 320 funds requested in this NEP grant to Suffolk County Department of Health Services (SCDHS) is **$177,463** which will be matched at the required 1:1 rate, making the full budget of this award $1,400,000.

*EPA FY21 Base funding will be provided to Suffolk County Department of Health Services (SCDHS) ($177,463) and SUNY Stony Brook Research Foundation ($522,537).

**The non-Federal match is provided by Suffolk County Department of Health Services. *The nonfederal 50% match requirement certification for the Stony Brook RF FY21 allocation is included in the Suffolk County FY21 application for grant #99200221 and satisfies the requirement for new funds.*

II. SUMMARY OF FY20 ACCOMPLISHMENTS

The FY20 year for the Peconic Estuary Partnership saw the completion and EPA concurrence of the 2020 Comprehensive Conservation Management Plan (CCMP). The new CCMP lays out a roadmap for protecting and restoring the Peconic Estuary and its watershed and will carry us forward through the next ten years. This was the close of a two year process that included extensive public outreach including 15 public meetings, five workshops, social media requests, PEP Management and Policy Committee review, PEP program office comments and a running on-line comment page on our web site to allow the public a venue to contribute. The 2020 CCMP includes fresh goals and actions which will strengthen our partnership and bring us together to tackle the issues we face together. Our new Goals: Strong Partnerships, Resilient Communities, Clean Water, and a Healthy Ecosystem are the four pillars of our foundation, and our renewed focus on partnership will enable us to grow and meet the challenges of the next decade. The new CCMP lays out 8 new Objectives and 35 new Actions that will guide PEP and our partners to address the challenges facing our watershed. Some of the critical challenges we face are: the impacts of climate change such as sea level rise, more frequent and more intense storms, and how changing weather patterns will affect habitat and living resources, water quality, and watershed management practices; hardened shorelines - seawalls, bulkheads, and other shoreline structures are constructed at a rapid pace, eliminating vital habitats for many species; land development - growth of the human population and associated land development are pressuring the ecosystem and habitat connectivity, affecting terrestrial, aquatic, and avian species; nitrogen pollution from septic systems and cesspools, and residential and agricultural fertilizer still plagues many areas; pollutants from activities on land such as excess nutrients, pathogens, pharmaceutical compounds and toxic contaminants such as pesticides and per- and polyflouroalkyl substances (PFAS) into the Estuary; threatened Bay Scallop populations; declining eelgrass beds—which serve as nurseries for scallops and fish—have diminished dramatically and are vulnerable to further decline with climate change; and HABs - although brown tides have not hit the Peconic Estuary since the 1990s, other kinds of harmful algal blooms are more frequent – in 2020 we saw an array of HABs throughout our Estuary.

As a result of the 2017 Program Evaluation, we completed the Water Quality Monitoring Strategy, finalizing water quality targets to use in our annual water quality reports. Originally these were to be released during our September 2020 conference, but were delayed due to the COVID-19 pandemic. The Water Quality Monitoring Strategy has been submitted to EPA Region 2 for concurrence. The 2020 Habitat Restoration Plan has been finalized and approved by the PEP Policy and Management Committees and has been submitted to EPA Region 2 for concurrence. Most notably, this included a fresh and updated list of priority sites and has included a ranking system for these priority sites. The Partnership is working toward the completion of a Finance Plan and CCMP Tracking System using EPA funds.

PEP completed the Non-Point Source Pollution Management Project in Sag Harbor and is developing an ArcGIS tool using the results of the Peconic Estuary Seagrass Bio-Optical Model. We have also carried out training webinars in our communities for the use of Climate Ready Assessment and Critical Lands Protection Strategy. Woodhull Dam Fish Passage Construction (planned for fall 2020) was delayed due to

COVID-19 budget restrictions at Suffolk County but construction is planned for fall 2021. Engineering designs for the Upper Mills Dam Fish Passage project are being submitted to permitting agencies. The Program office developed an EPA approved QAPP to enable the monitoring of alewife at the Grangebel fishway during the spring spawning season using an underwater video camera. The PEP State Coordinator worked diligently to collect this data during the COVID-19 restrictions and partnered with Suffolk County Community College to analyze the video recordings. It is estimated that over 57,000 alewife used the fish passage in the 2020 spring migration season. Our continued efforts will open up the majority of the Peconic River and its tributaries to alewife and other diadromous fish. The alewife monitoring efforts will help to evaluate the success of these restoration efforts.

Two projects funded by EPA §320 grants had to have their completion extended due to the COVID-19 restrictions in New York State. These are: the Expansion and Monitoring of the Town of Southold Living Shoreline Project and Nitrogen Load Reduction Assessment Project.

Our partnership-based work continues to grow. We work with Suffolk County on the publicity and education of the Subwatersheds Wastewater Plan to reduce nitrogen pollution into the estuary. PEP continued to work with multiple community organizations and local governments throughout the watershed to highlight this work and teach the public about the importance of nitrogen reduction and a virtual CAC meeting was held regarding this important topic.

PEP has continued and strengthened our partnership with NYSDEC Long Island Nitrogen Action Plan (LINAP) to align the goals and actions of each organization to maximize funding opportunities and work products. PEP worked with Long Island Regional Planning Council and LINAP to develop the "Reduce Nitrogen Pledge" for the Long Island Nitrogen Action Plan, a multiyear initiative to reduce the amount of nitrogen entering Long Island's groundwater and surface water from wastewater, stormwater runoff and fertilizers. This pledge was developed to encourage citizens to reduce their personal nitrogen pollution. The pledge can be found here: https://lirpc.org/our-work/long-island-nitrogen-action-plan/nitrogen-pledge/

Our outreach efforts continued and were further developed in FY20.

- **Long Island Wildlife Monitoring Network:** We initiated the creation of the Long Island Wildlife Monitoring Network. The goal of the Wildlife Monitoring Network is to create a brand and central website where all Long Island wildlife monitoring projects are housed together. This makes it easy 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, this should increase citizen participation, data collection, and partner collaboration. PEP is currently organizing content and is working with Seatuck Environmental Association to launch the website.
- **Citizens' Advisory Committee/Public Events:** PEP saw record breaking and increased attendance at 2020 public workshops and CAC meetings due to the ability of the public to virtually attend. PEP hosted meetings with topics that ranged from Native Plant Gardens for Better Water Quality with Long Island Native Plant Initiative, Citizen Science - Long Island Diamondback Terrapin Monitoring with Seatuck Environmental Association, Suffolk County Septic Improvement Program

with Suffolk County, Rain Gardens & Shoreline Plantings with Long Island Native Plant Initiative, and Estuary Day with the other two Long Island Estuary Programs. The purpose of these meetings was to deliver engaging topics that provide citizens the resources necessary to put stewardship into action and get involved with the PEP. Immediate results that have been noticed thus far include a further engaged CAC, additional new members, recorded PEP hosted workshops for partners and municipalities to use as a resource, and increased involvement in Seatuck's Long Island Diamondback Terrapin Monitoring citizen science survey with increased data collection this 2020 season.

- **Resources for Educators**: PEP also developed new worksheets and activities for the PEP Resources for Educators webpage for educators and parents to utilize, especially during the covid-19 pandemic. The goal is to make PEP a resource for environmental education as many teachers and parents are utilizing virtual education methods and many students and children are being taught at home.
- **Long Island Nitrogen Action Plan**: In collaboration with Long Island Regional Planning Council, the PEP aided in the development of a "Reduce Personal Nitrogen Pledge" for citizens to learn about 10 easy ways they can reduce their personal nitrogen inputs. This pledge was created to encourage action for nitrogen reduction and inspire community members to participate and earn recognition for their efforts. This is a Long Island Nitrogen Action Plan outreach initiative**.**
- **PEP Website:** We also developed a new organization of the PEP website which includes new homepage tab titles, a new organization of pages (including focus on the CCMP's main four goals), fresh language, and fresh photos. This makes the PEP website more user friendly so that the user is able to find items more easily and makes the text and photos cleaner and more relevant.
- **PEP CCMP Video and Partnerships:** 17 interviews were conducted with PEP partners to create footage for the PEP CCMP video. Partners that were interviewed include: Suffolk County Executive Steve Bellone; NY Assemblyman Fred Thiele; USEPA Regional Administrator Pete Lopez; Javier Laureano, USEPA (PC); Aisha Sexton-Sims, USEPA (MC); Councilman John Bouvier; Legislator Al Krupski;, Legislator Bridget Fleming; Katie Petronis Deputy Commissioner, Office of Natural Resources of NYSDEC; Jim Gilmore Director, Division of Marine Resources of NYSDEC; Town Supervisor Romaine, Brookhaven; Town Supervisor Van Scoyoc, East Hampton; John Pavacic, Central Pine Barrens Commission; Matt Sclafani, Cornell Cooperative Extension (TAC); Alison Branco, The Nature Conservancy; Mike Bottini, Seatuck Environmental Association; and Byron Young, Retired Marine Biologist of NYSDEC. The video will be presented at the 2021 conference and will be used to bring awareness to the CCMP 2020. This project has helped PEP engage with leading partners in the region.

III. WORKPLAN

1. CCMP Goals

Our new Goals: Strong Partnerships, Resilient Communities, Clean Water, and a Healthy Ecosystem are the four pillars of our foundation, and our renewed focus on partnership will enable us to grow and meet

the challenges of the next decade. The new CCMP lays out 8 new Objectives and 35 new Actions that will guide PEP and our partners to address the challenges facing our watershed. The following CCMP Actions will specifically be addressed this year by the portion of the grant addressed in this workplan:

2. Budget and Staff Elements
Program Office Staff

All funding to be used for direct staff time is covered under the SUNY Stony Brook Research Foundation portion of the NEP grant request. For information regarding staff funding of the Peconic Estuary Partnership staff in FY2021, please see the workplan for grant agreement CE-96250200-0 to SUNY Stony Brook Research Foundation. However, time from the following staff will be used toward managing the projects funded via the NEP grant awarded to the Suffolk County Department of Health Services since this award supports the PEP:

Director: Joyce Novak, PhD

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 204N, Riverhead, NY

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

Program Coordinator: Sarah Schaefer

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 204N, Riverhead, NY

Responsibilities: Coordinates all projects in Suffolk County and acts as support and lead for a variety of other projects carried out by the program office.

3. New and On-Going Project Information – Suffolk County FY21 Workplan
In addition to the *New* projects listed below that will be funded with FY21 §320 funds; the PEP Staff will be working on the following *Ongoing* tasks funded by previous §320 Budgets and Grant Awards awarded to SCDHS. Table 2 outlines the project type, Suffolk County FY21 funding request, and PEP role for each task in the workplan.

Table 2: PEP Projects in the Suffolk County FY21 updated workplan. Updated as of February 2024 including revised funding Task 4- Indian Island project with unliquidated funds from Task 2- NADP project as well as transferring funds previously designated for Submerged Aquatic Vegetation Monitoring as recommended and approved by PEP Management Conference due to monitoring program protocol changes.

CCMP Action	Description	Project Type	Funding requested from FY21 §320 award:	PEP Role
Action 16	Task 1: Water Quality Monitoring	New/Ongoing	$137,463	Supporting partner
Action 16	Task 2: NADP	New/Ongoing	$**8,245 *updated**	Supporting Partner
Action 17	Task 3: N Load Cost Assessment	Ongoing	Staff time	Lead partner
Action 31	Task 4 (updated): Wetland Restoration at Indian Island	New/Ongoing	$27,646.82	Supporting Partner
Action 31	Task 5: Expansion of the Town of Southold Living Shoreline Demonstration Project	Ongoing	Staff time	Lead partner

Table 2a: Previous PEP Projects in the Suffolk County FY21 Workplan

CCMP Action	Description	Project Type	Funding requested from FY21 §320 award:	PEP Role
Action 16	Task 1: Water Quality Monitoring	New/Ongoing	$137,463	Supporting partner
Action 16	Task 2: NADP	New/Ongoing	$10,000	Supporting Partner
Action 17	Task 3: N Load Cost Assessment	Ongoing	Staff time	Lead partner
Action 30	Task 4: SAV Long Term Monitoring	New/Ongoing	$30,000	Lead Partner
Action 31	Task 5: Expansion of the Town of Southold Living Shoreline Demonstration Project	Ongoing	Staff time	Lead partner

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 recommendations regarding changes to water quality data collection in order to adequately monitor all waterbodies in the Estuary.

Performance Measure: Annual water quality data reports that support partner's efforts to increase local and regional stewardship of areas of clean water quality.

Task 1 (FY21 Funds): Water Quality Monitoring (New/Ongoing)

a. **Estimated Budget:** $137,463: §320 funds Request in FY21 budget
b. **Partners and their roles:** Suffolk County Department of Health Services (SCDHS), Office of Ecology (Lead Partner), PEP (Supporting Partner).
c. **Description and Objectives:** SCDHS monitors water quality of surface and marine waters within the Peconic Estuary. The water quality monitoring program conducted by the SCDHS Office of Ecology includes monthly monitoring at approx. 40 Peconic surface water quality stations throughout the year, periodic monitoring of approx. 30 point source and stream stations, and weekly monitoring at the NADP rain and atmospheric deposition gauge. Task funds will be used to support 2 Suffolk County personnel monitoring water quality of surface and marine waters within the Peconic Estuary as part of the Suffolk County Department of Health Services (SCHDS) Surface Water Quality Monitoring Program. The SCDHS Surface Water Quality Monitoring Program data will be analyzed by SCDHS Office of Ecology as part of the PEP Water Quality Monitoring Collaborative; a water quality monitoring report will be produced for the Peconic Estuary Partnership. FY21 funds will be used to support personnel time allocated to this task.
d. **Outputs and Deliverables:** Routine monitoring conducted in the Peconic Estuary makes it possible for the PEP to have accurate, up-to-date information regarding water quality conditions throughout the Estuary. All Suffolk County Department of Health Services Water Quality Data and Information is available on the public Suffolk County ArcGIS Portal: (https://gisportal.suffolkcountyny.gov/gis/home/group.html?id=cbd4d20b287d4ef79af28a9b56cea71a#overview)
e. **Estimated Milestones:** Annual water quality summary report.
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 and 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.

Task 2 (FY21 Funds): National Atmospheric Deposition Program (New/Ongoing)

***budget updated Feb 2024**

a. **Estimated Budget: $8,245**: §320 funds request in FY21 budget (edited from $10,000 previous to Feb 2024)
b. **Partners and their roles:** Suffolk County Department of Health Services, Office of Ecology (Lead Partner) is responsible for sample collection; Wisconsin State Laboratory of Hygiene (cations) and Frontier Global Sciences, Inc. (mercury) are responsible for data analysis; Wisconsin State

Laboratory of Hygiene National Atmospheric Deposition Program is responsible for data assessment, reporting, and coordination with the national network; Mercury Deposition analyses are funded through a partnership with New York State Energy Research and Development Authority (NYSERDA), PEP (Supporting Partner).

c. **Description and Objectives:** Monitor local atmospheric deposition of major cations in precipitation and local mercury deposition in precipitation at Site ID 96 at Cedar Beach Southold, NY. Objective is to evaluate success of Clean Air Act policies and program in reducing atmospheric deposition of nitrogen in the Peconic region and track progress toward nitrogen TMDL goals.
d. **Outputs and Deliverables:** Results published as part of the National Atmospheric Deposition Program system on their website: (http://nadp.slh.wisc.edu/data/sites/siteDetails.aspx?net=NTN&id=NY96)
e. **Estimated Milestones:** Annual Reporting
f. **Long Term Outcomes:** To assess the long term trends of nitrogen and mercury and nitrogen deposition in the Peconic watershed and Estuary. Utilize the results to understand the sources of nitrogen pollution and implement science-based approaches for monitoring and reducing nitrogen pollution. Results will be used to determine implications for coastal acidification.
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 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 nitrogen pollution.

Performance Measure: Completion of BMP cost per pound of nitrogen removal assessment from nature-based point source removal technologies. This will help to develop cost-effective, subwatershed-specific strategies to achieve target nutrient load reductions.

Task 3 (Ongoing): Peconic Estuary Nitrogen Load Reduction Cost Assessment (Ongoing- FY15 Workplan and Budget)

a. **Estimated Budget**: §320 funds: $87,000 (FY15)
b. **Partners and their roles:** PEP (Lead Partner), Anchor QEA, LLC. (Contractor), Suffolk County Department of Health Services (Contracting Entity)
c. **Description and Objectives**: Assessment of the cost per-pound of nitrogen reduction to groundwater for various nature-based nitrogen reduction best management practices (BMPs) currently being employed in the New England and Mid-Atlantic region of the United States that, based on the geographical, environmental and climate based needs of the County, have potential to be installed in Suffolk County. The contractor will be responsible for comparing the cost and benefit estimates based on a per-pound of nitrogen reduction for any public or private property owner. This information will be analyzed and developed into a user friendly tool by the contractor in conjunction with and with approval of the County. This tool will be made available for the public to use and will also be used as a tool for municipalities for geographic and financial planning purposes.

d. **Outputs and Deliverables**: On-line tool to assess cost per pound of nitrogen in nature-based nitrogen pollution reduction techniques.
e. **Estimated Milestones**: Completion Fall 2021.
f. **Long Term Outcomes:** Enable communities and local governments to achieve the most cost effective measures to reduce nitrogen in the 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.

CCMP GOAL: HEALTHY ECOSYSTEMS WITH ABUNDANT, DIVERSE WILDLIFE

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

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 priority projects.

Performance Measure: Financial and logical support for the Indian Island Wetland Restoration project

Task 4 *updated Feb 2024 (FY21 Funds): Indian Island Wetland Restoration New/Ongoing)

a. **Estimated Budget**: $27,646.82 §320 funds redistributed Feb 2024
b. **Partners and their roles:** Suffolk County (Contracting Entity), PEP (Supporting Partner)
c. **Description and Objectives:** Restore former tidal wetland area through construction of tidal channel to wetland area.
d. **Outputs and Deliverables**: Restore 5 acres of wetlands
e. **Estimated Milestones:** Estimated to be completed by June 2024.
f. **Long Term Outcomes:** Wetland restoration estimated completed in June 2024
g. **Clean Water Act Core Programs:** Protecting Wetlands

Note: projects that have strikethrough are no longer funded under this award.

~~**CCMP GOAL: HEALTHY ECOSYSTEMS WITH ABUNDANT, DIVERSE WILDLIFE**~~

~~**Objective H**: Restore and protect key habitats and species diversity in the Peconic Estuary~~

~~**Action 30**: Monitor and protect existing eelgrass beds; where appropriate, restore and expand eelgrass beds.~~

~~**Performance Measure:** Financial and logistical support for the Annual Long-term Eelgrass Monitoring Program to monitor changes in eelgrass density end extent.~~

~~**Task 4 (FY21 Funds): Submerged Aquatic Vegetation Long Term Monitoring and Management (SAV Monitoring) (New/Ongoing)**~~

- ~~a. **Estimated Budget**: $30,000: §320 funds Request in FY21 budget~~
- ~~b. **Partners and their roles:** Cornell Cooperative Extension of Suffolk County (Sub-Awardee), Suffolk County (Lead Partner), PEP (Supporting Partner)~~
- ~~c. **Description and Objectives:** Monitoring of seagrass survival and bed expansion at thirteen eelgrass beds located throughout the estuary. Nine sites are monitored annually and four additional sites are monitored biennially. Long-term measurements of seagrass extent and deep edge location, eelgrass shoot density, measurements of light, temperature, macroalgae cover and sediment conditions are done at these sites. Measurements of light and temperature were only monitored at six of those sites.~~
- ~~d. **Outputs and Deliverables:** Maps of individual eelgrass beds with shoot density, imagery, and bed alterations on an annual timescale.~~
- ~~e. **Estimated Milestones:** Annually and report generated in March.~~
- ~~f. **Long Term Outcomes:** An extensive and accurate record of eel grass beds on a micro scale to allow for successful management decisions.~~
- ~~g. **Clean Water Act Core Programs:** Protecting Wetlands~~

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.

Task 5 (Ongoing): PEP Expansion and Monitoring of the Town of Southold Living Shoreline Demonstration Project (Ongoing-Referred to as Nitrogen Mitigation Pilot Assessment - FY18 Workplan and Budget)

- **a. Estimated Budget:** §320 funds: $155,000. $55,000 (FY15) ($100,000 (FY11) spent down).
- b. **Partners and their roles:** PEP (Supporting Partner), Cornell Cooperative Extension of Suffolk County (Contractor), Suffolk County Department of Health Services (Contracting Entity)
- c. **Description and Objectives:** Expansion and Monitoring of the Town of Southold Living Shoreline Demonstration Project. This project involves expansion to an existing Town of Southold Living Shoreline Demonstration Project contract with the Town of Southold Trustees and the Suffolk County Department of Economic Development and Planning. The PEP funded project establishes a larger geography of the project and monitoring services to run in tandem with the existing project to enable the quantification of nitrogen and pathogen uptake results and assessment of the effectiveness of the living shoreline to mitigate nitrogen pollution in the Peconic Estuary. The living shoreline coconut fiber (coir) logs, planting of *Spartina alterniflora* and hatchery cultivated ribbed mussels to provide shoreline stabilization, improve habitat, reduce nitrogen and enhance

ecosystem services. Assess the project's ability to improve water quality and use results to develop decision-support information.

d. **Outputs and Deliverables:** The creation of a living shoreline demonstration project using ribbed mussels and *Spartina alternaflora* in a sheltered embayed coastal habitat. Educational materials for public dissemination and permanent signage at the demonstration site.
e. **Estimated Milestones:** Completion Fall 2021
f. **Long Term Outcomes:** The results from these analyses are intended to be used in recommendations for future nitrogen and pathogen mitigation techniques and nitrogen and pathogen management activities, including those regarding cost-effective nitrogen removal strategies on a subwatershed basis, thus assisting local decision makers determine the most cost-effective means of reducing nitrogen in subwatersheds.
g. **Clean Water Act Core Programs:** Elements of this project prevent or mitigate the impacts of nutrient pollution. Wetlands Protection.

4. Completed Major Projects

a. Peconic Estuary Non-Point Source Pollution Management Program

i. **Objective:** Reduce current and future inputs of toxics, pathogens, and marine debris into groundwater and surface waters, and minimize their impacts.
ii. **Description:** This project established a non-point source pollution management project at Havens Beach Sag Harbor, NY. The project furthers the goals of the Village of Sag Harbor Water Quality Improvement Project Plan which was adopted in 2016. The project involved utilizing green infrastructure best management practices to treat stormwater that would otherwise flow across the beach and/ or through an existing discharge pipe directly to Sag Harbor Bay. Two native plant rain gardens were established at Havens Beach and an educational sign was installed at the site to describe the benefits of rain gardens and native plants. The main purpose of the rain garden is to provide treatment of solids, metals, nutrients, hydrocarbons and pathogens from stormwater runoff along Havens Beach Road.
iii. **Lead Implementer:** PEP (Lead Partner), Village of Sag Harbor (Contractor/propertyowner), and Suffolk County (Contracting Entity).
iv. **Accomplishments and Deliverables:** A waterfront stormwater retention and filtration system using native plants which is estimated to reduce Total Nitrogen by 7.6 lbs/ year, Total Phosphorus by 0.8 lbs/year, Total Suspended Solids by 460 lbs/ year and bacteria. An educational sign was installed at the site about the benefits of stormwater retention and rain gardens. Project aligns with ACTION 21: Expand non-point source subwatershed management plans to all pathogen-impaired waterbodies and continue to use existing plans. Performance Measure: Review of current PEP Non-point Source Subwatershed Management Plans and implementation of viable projects. **§320 grant/cooperative agreement funds:** §320 funds: $24,711 (FY14)
v. **Expected Long-term Outcomes:** Long term filtration of stormwater and related pollutants associated with this non-point source pollution. Significant reduction in the nitrogen pollutant loads to the waterbody and improving the overall health of the Peconic Estuary.

vi. **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.

b. Seagrass Bio-optical model

i. **Objective:** This project obtained specific information to inform eelgrass management and restoration programs to lead to a better understanding of specific light and temperature requirements for eelgrass in the PE as well as the factors that contribute to reduced light conditions throughout the PE. The project will lead to a better understanding of the effects of eelgrass restoration projects and pollution prevention initiatives undertaken within the Peconic Estuary Watershed.

ii. **Description**: Eelgrass beds in the Peconic Estuary were decimated by disease in the 1930's and further impacted by reduced light penetration due to the Brown Tide blooms of 1985-1995. Eelgrass is also damaged by excess nitrogen inputs, anchor scarring, and boating in shallow water. Eelgrass coverage declined by at least eighty-two percent (82%) from the 1930's through 2000; an inventory taken in year 2000 found only 1,550 acres of eelgrass in one-hundred and nineteen (119) beds within the PE, and a 2014 survey showed that nearly half of that had been lost, leaving less than nine-hundred (900) acres of seagrass remaining. The benefits that this ecosystem provides, including preventing shoreline erosion, supporting species valuable to our economy, and improving water quality, has a monetary value twice that of other marine habitats. Over the past few decades, eelgrass restoration projects have been completed and few have been successful, partly due to the lack of understanding of light requirements for local eelgrass populations and water quality and sediment condition requirements. The PEP contracted with The Research Foundation of SUNY Stony Brook to examine the combined effects of light and temperature on eelgrass physiology and survival.

iii. **Lead Implementer**: PEP (Project Lead), The Research Foundation of SUNY Stony Brook (Contractor), SCDHS (Contracting Entity)

iv. **Accomplishments and Deliverable(s)**: An eelgrass site suitability index and bio-optical model and an improved ability to make management decisions for eelgrass protection and restoration within the Peconic Estuary. The suitability index and bio-optical model provide an understanding of the light and temperature dynamics associated with eel grass in the Peconics. This has allowed for the creation of eel grass zones for appropriate management of the resource with specific light and temperature conditions, existing and predicted.

v. Report: Living on the edge- Analysis of Zostera marina and the potential for restoration in Peconic Bay (Long Island, NY) (2020)

vi. **§320 grant/cooperative agreement funds:** $82,000 (§320 funds: $35,311 (FY 11); $46,689 (FY12))

vii. **Expected Long-term Outcomes:** Increase understanding of light limits of seagrass plants under different temperature conditions so that numeric nutrient criteria can be established for the maintenance of sufficient light for plant survival. Increased light availability for healthier eelgrass due to the implementation of regulatory and voluntary programs to manage for nitrogen loadings, suspended sediment, or other factors.

viii. **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; addressing diffuse, nonpoint sources of pollution.

c. Climate Ready Estuaries – Climate Ready Assessment and Critical Land Protection Strategy

i. **Objective**: Update the PEP 2004 Critical Land Protection Strategy, taking into account climate related variables, specifically sea level rise, in order to update acquisition priorities. Provide climate change analysis of the environmental restoration and protection programs of both the PEP and Shinnecock Indian Nation and to conduct a risk based climate change vulnerability assessment, and to develop an adaptation action plan consistent with USEPA's Climate Ready Estuaries Program.

ii. **Description**: The Peconic Estuary faces numerous pressures including development, habitat loss, and nutrient loading. Climate change poses another set of challenges; among them are sea level rise (SLR), more frequent and more intense storms, and changing weather patterns. Suffolk County has already seen a 2.3°C (4.14°F) increase in annual temperature since the late 1890s, above the 1°C average increase for the United States over the same period (Mufson et al. 2019). All these pressures and challenges have the potential to further degrade water and habitat quality and lead to greater habitat loss and fragmentation. But PEP's 2001 CCMP and 2004 CLPS do not take climate change into account. In 2016, PEP embarked on a Climate Ready Assessment (CRA) Project to incorporate climate change into an updated CLPS, to conduct a risk based climate change vulnerability assessment, and to develop an adaptation action plan consistent with USEPA's Climate Ready Estuaries Program. The CRA included broad stakeholder outreach and collaboration to fully identify risks. It also included the development of tools to identify the spatial distribution of potential climate change impacts and to provide a way to prioritize land for protection based on revised environmental criteria that include climate change considerations.

iii. **Lead Implementer**: PEP (Project Lead), Anchor QEA, LLC. (Contractor), the Nature Conservancy (Sub-contractor), SCDHS (Contracting Entity)

iv. **Accomplishments and Deliverable(s)**: A report documenting the approach, methods, and results of the CRA, Procedures for ensuring climate change considerations are incorporated into all environmental protection and restoration activities of the Peconic Estuary Partnership and Shinnecock Indian Nation to create a more climate resilient program positioned to track climate indicators, manage adaptively and participate in regional climate initiatives. Reports: Peconic Estuary Partnership Climate Vulnerability Assessment and Action Plan. Shinnecock Indian Nation Climate Vulnerability Assessment and Action Plan.

v. **§320 grant/cooperative agreement funds:** $97,699 (§320 funds: Various (FY09, FY11, FY12, FY14)

vi. **Expected Long-term Outcomes:** This project will result in the protection and acquisition of lands the will continue to preserve and improve water and habitat quality in the face of rising sea levels and increased temperatures. It will allow for the natural inland migration of critical salt marsh habitats as sea level rises and preserve living shorelines in an environment where shoreline hardening is likely to become increasingly common. The information resulting from the Services will serve as an important tool for New York State, Suffolk County, and local agencies. The Services will be a critical step towards updating the current PEP CCMP and addressing a long-term goal of prioritizing management actions and planning within the

Peconic Estuary watershed. It will be a first step towards the PEP and SIN working together toward climate adaptation by assessing our highly overlapping climate vulnerabilities.

vii. **Clean Water Act Core Programs**: Elements of this project prevent or mitigate the impacts of nutrient pollution. Wetlands Protection.

d. Widows Hole Living Shoreline Demonstration Project (Habitat Restoration Plan Implementation)

i. **Objective:** Provide funding for the habitat restoration project at the Peconic Land Trust's (PLT) Widow's Hole Preserve in Greenport, NY that will involve non-native species removal restoring degraded saltmarsh and shoreline communities.

ii. **Project Description:** Widow's Hole Preserve is a property owned by the Peconic Land Trust that was developed for commercial purposes and used as a petroleum product storage facility which has resulted in degradation of the shoreline and native plant species. The Peconic Land Trust, in coordination with the Cornell Cooperative Extension of Suffolk County, designed and implemented plans for salt marsh restoration and coastal grass restoration at the site. The project resulted in a living shoreline restoration project and educational signage and materials.

iii. **Lead Implementer**; **Partners and Their Roles:** PEP (Project Lead), PLT (Contractor), Cornell Cooperative Extension of Suffolk County (Sub-contractor).

iv. **Accomplishments and Deliverable(s)**: Advance a habitat restoration project in Greenport Village within the Town of Southold which completed the first Living Shoreline Demonstration Project in the Peconic Estuary watershed. Report: Widows Hole Preserve Living Shoreline Project- Final Report

v. **§320 grant/cooperative agreement funds:** $150,000 FY11 §320 Funds

vi. **Expected Long-term Outcomes:** The use of living shorelines will provide an opportunity to analyze the effectiveness of living shorelines in the Peconic Estuary. Provide assistance to local governments and partners to support habitat restoration project plans. Enhancement of existing resources and/or restoration of habitats that have been lost or degraded.

vii. **Clean Water Act Core Programs:** Wetlands Protection

e. Conceptual Habitat Restoration Design Planning Services

i. **Objective:** Peconic Estuary Conceptual Habitat Restoration Design Plans, feasibility assessments, conceptual designs/ plans and planning-level cost estimates for four designated habitat restoration projects identified in the 2009 Peconic Estuary Partnership Habitat Restoration Plan.

ii. **Project Description:** Conceptual habitat restoration design plans for Southold: Narrow River Road, Southampton: Iron Point Wetland Restoration, East Hampton: Lake Montauk Alewife Access and Habitat Enhancement, and Riverhead: MH-2 Main Road Wetland Construction.

iii. **Lead Implementer**; **Partners and Their Roles:** PEP (Project Lead), Land Use Ecological Services, Inc. (Contractor)

iv. **Accomplishments and Deliverable(s)**: The PEP contracted with Land Use Ecological Services, Inc. to complete feasibility assessments, conceptual designs/plans and planning-level cost estimates for nine designated habitat restoration projects in support of implementing the PEP Habitat Restoration Plan. The development of conceptual design plans in the five East End Towns will make permitting and other requirements for these projects able to be fulfilled in

a timelier manner for habitat restoration projects to be completed. Reports: Conceptual Habitat Restoration Design- Narrow River Road (2019); Conceptual Habitat Restoration Design-Iron Point Park (2019); Conceptual Habitat Restoration Design- Lake Montauk (2019); Conceptual Habitat Restoration Design- Main Road (2019)

v. **§320 grant/cooperative agreement funds:** $99,980 §320 funds (FY10)

vi. **Expected Long-term Outcomes:** Having conceptual plans completed will facilitate applying for funding sources as they become available. It is also more likely that habitat restoration efforts will be fulfilled and thus the benefits of such projects can be realized. 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. Significant natural habitats such as eelgrass beds and wetland complexes will benefit from restoration efforts.

vii. **Clean Water Act Core Programs:** Wetlands Protection; Elements of this project prevent or mitigate the impacts of nutrient pollution.

IV. BUDGET DETAILS

1. Resources Requested

The total 320 funds requested in this PEP grant to Suffolk County Department of Health Services is **$177,463.** This grant will be complimented by a request for PEP support to SUNY Stony Brook Research Foundation for $522,537, and together these two components make up the full Peconic Estuary Partnership FFY2021 workplan for a total §320 request of $700,000 with a total of $700,000 match.

No trips are anticipated under this grant request and no travel funds are requested here.

Note: updates as of February 2024 include funding Task 4- Indian Island project with unliquidated funds from Task 2- NADP project as well as transferring funds previously designated for Submerged Aquatic Vegetation Monitoring as recommended and approved by PEP Management Conference due to monitoring program protocol changes. The update also includes funds for PEP Program Office Management relating to office security needs. This funding distribution was approved by EPA via email on October 19, 2024 in alignment with the EPA Funding guidance protocol.

Table A: Resources Requested revised February 2024

BUDGET DETAIL 2021 Workplan	Total Requested from EPA	Total Match Provided by Applicant	Total Match Provided by NYSDEC	Total
Personnel and Fringe				
Task 1 (FY21 Funding) – Ongoing Personnel				
Monitoring Personnel: Chemist	$53,167.00	$48,296.00	$0.00	$101,463.00
Monitoring Personnel: Boat Operator	$35,855.00	$32,570.00	$0.00	$68,425.00
Fringe				
Monitoring Personnel: Chemist	$26,331.00	$23,919.00	$0.00	$50,250.00
Monitoring Personnel: Boat Operator	$22,110.00	$20,085.00	$0.00	$42,195.00
SUB-TOTAL	**$137,463.00**	**$124,870.00**	**$0.00**	**$262,333.00**
Contractual				
Task 4 updated (FY21 Funding) -Indian Island Wetland Restoration	$27,646.82	$0.00	$0.00	$27,646.82
SUB-TOTAL	**$27,646.82**	**$0.00**	**$0.00**	**$27,646.82**
Supplies				
Updated: PEP Program Office Management	$4,108.18	$0.00	$0.00	$4,108.18
SUB- TOTAL	$4,108.18	$0.00	$0.00	$4,108.18
Other				

Task 2 (FY21 Funding) - Ongoing Atmospheric Deposition Monitoring via NADP *amt updated	$8,245.00	$0.00	$0.00	$8,245.00
Suffolk County Projects	$0.00	$52,593.00	$0.00	$52,593.00
NYSDEC Projects	$0.00	$0.00	$522,537.00	$522,537.00
SUB- TOTAL	**$12,353.18**	**$52,593.00**	**$522,537.00**	**$587,483.18**
TOTAL	**$177,463.00**	**$177,463.00**	**$522,537.00**	**$877,463.00**

Previous Table A before revision in Feb 2024:

BUDGET DETAIL 2021 Workplan	Total Requested from EPA	Total Match Provided by Applicant	Total Match Provided by NYSDEC	Total
Personnel and Fringe				
Task 1 (FY21 Funding) – *Ongoing Personnel*				
Monitoring Personnel: Chemist	$53,167.00	$48,296.00	$0.00	$101,463.00
Monitoring Personnel: Boat Operator	$35,855.00	$32,570.00	$0.00	$68,425.00
Fringe				
Monitoring Personnel: Chemist	$26,331.00	$23,919.00	$0.00	$50,250.00
Monitoring Personnel: Boat Operator	$22,110.00	$20,085.00	$0.00	$42,195.00
SUB-TOTAL	**$137,463.00**	**$124,870.00**	**$0.00**	**$262,333.00**
Other				
Task 2 (FY21 Funding) - Ongoing Atmospheric Deposition Monitoring via NADP (Subaward)	$10,000.00	$0.00	$0.00	$10,000.00
Task 3 (FY21 Funding) - Ongoing SAV Monitoring via Cornell Cooperative Extension (Subaward)	$30,000.00	$0.00	$0.00	$30,000.00
Suffolk County Projects	$0.00	$52,593.00	$0.00	$52,593.00
NYSDEC Projects	$0.00	$0.00	$522,537.00	$522,537.00
SUB- TOTAL	**$40,000.00**	**$52,593.00**	**$522,537.00**	**$615,130.00**

TOTAL	**$177,463.00**	**$177,463.00**	**$522,537.00**	**$877,463.00**

2. Non-Federal Contribution

(a) Suffolk County Match

Suffolk County Department of Health Services will provide the required 1:1 for this grant application totaling $177,463 as detailed in the previous table. Suffolk County's expenditures to fund water quality monitoring and water quality protection and restoration through the Suffolk County General Budget and Suffolk County Capital Budget funding are approved to be allocated as the required 1:1 local match for Suffolk County's USEPA National Estuary Program Peconic Estuary Partnership Support grant.

(b) New York State Department of Environmental Conservation (NYSDEC) Match for SUNY Stony Brook Research Foundation Grant Application:

NYSDEC will provide $522,537 in match for the SUNY Stony Brook Research Foundation Grant # 96250200-0. The NYS match certification for this grant is included here:

The nonfederal 50% match requirement certification for the FY21 allocation for Stony Brook grant #96250200-0 is included in this Suffolk County FY21 application and satisfies the requirement for new funds.

Table B: New York State Non-Federal Match for Stony Brook FY21 Award

Project Name	Amount
EPF OGL funds for USGS Peconic Water Quality Stations, C012201	$153,650.00
EPF OGL funds for SUNY-Stony Brook Bay Scallop Restoration and Research, AM11315	$368,887.00
TOTAL	**$522,537.00**

3. Grant Agreement Allocations For 2021

The Federal Fiscal Year Award is expected to be awarded by Cooperative Agreement CE-99200221. The table below details the agreement.

Table C: Revised Summary Table of FY21 Suffolk County Request and Non-Federal Match

FY21 EPA §320 Budget (CE-99200221)	
Description	**FY21 Cost**
Personnel	$89,022.00
Fringe	$48,441.00
Contractual	
Indian Island	$27,646.82
Supplies	
PEP Program Office Management	$4,108.18
Other (Subawards)	
NADP Monitoring - Wisconsin State Lab of Hygiene	$8,245.00
Indirect	$0.00
Total Suffolk County Request	$177,463.00
Total Match Suffolk County	$177,463.00
Total Match NYSDEC	**$522,537.00**
TOTAL EPA Grant	$877,463.00

Previous Table C before revision Feb 2024.

FY21 EPA §320 Budget (CE-99200221)	
Description	**FY21 Cost**
Personnel	$89,022.00
Fringe	$48,441.00
Other (Subawards)	
SAV Monitoring - CCE	$30,000.00
NADP Monitoring - Wisconsin State Lab of Hygiene	$10,000.00
Indirect	$0.00
Total Suffolk County Request	**$177,463.00**
Total Match Suffolk County	$177,463.00
Total Match NYSDEC	**$522,537.00**
TOTAL EPA Grant	**$877,463.00**