FY21 WORKPLAN AND BUDGET
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Applicant:
Stony Brook Research Foundation

Submitted by:
PEP Management Conference

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Peconic Estuary Partnership

FY21 Workplan & Budget

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I. INTRODUCTION

Peconic Estuary Partnership

The Peconic Estuary is one of 28 estuaries in the country designated by U.S. Environmental Protection Agency as an "estuary of national significance" under Section 320 of the Federal Clean Water Act. The National Estuary Program (NEP) was established to protect and restore nationally significant estuaries threatened or impaired by pollution, development, and overuse. The Peconic Estuary was formally accepted as part of the NEP in 1992. Officially commenced in 1993, the Peconic Estuary Program includes numerous stakeholders, representing citizen and environmental groups, businesses and industries, academic institutions, and local, county, state and federal governments. The EPA, New York State Department of Environmental Conservation (NYSDEC) and the Suffolk County Department of Health Services (SCDHS) are the sponsoring government agencies for the program. As of Spring 2021, the current hosts of the program are SCDHS and NEIWPCC. On July 1, 2021, Stony Brook University will replace NEIWPCC as host. As such, this grant period will commence July 1, 2021.

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 Stony Brook University is $522,537 which will be matched at the required 1:1 rate, making the full budget of this award $1,045,074.

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

**The non-Federal match is provided by the New York State Department of Environmental Conservation (NYSDEC) 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.

The nonfederal 50% match requirement certification for the FY21 allocation will be 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 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 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. Most notably, this included a fresh and updated list of priority sites and has included a ranking system for these priority sites. This plan has been submitted to EPA for concurrence. The Partnership is working toward the completion of the Organizational Plan and the development of a Finance Plan and CCMP Tracking System.

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 and the engineering designs and permitting are complete for the Upper Mills Dam Fish Passage project. The Program office developed an EPA approved QAPP to enable the data collection of alewife at the Grangabel fishway using the seasonal camera. The PEP State Coordinator and Program Coordinator worked carefully and were dedicated to collecting this data during the COVID-19 restrictions. 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 Peconic River and its tributaries with fish passage projects in some phase of completion at all Peconic River dams.

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:** PEP 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 outreach efforts and 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:** PEP reorganized the website which includes new homepage tab titles, a new focus on the 2020 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

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.

Budget and Staff Elements

Program Office Staff

The following outlines FY21 §320 budget requests to support the Peconic Estuary Partnership Office to implement the CCMP. Costs include salary, fringe and indirect costs (Stony Brook IDR is negotiated annually with the federal government)

Program Office Staff Total Cost: $395,484

Director, Joyce Novak (Ongoing)

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 (Ongoing)

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 204N, Riverhead, NY 11901

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.

New York State Coordinator, Elizabeth Hornstein (Ongoing)

Location: New York State Department of Environmental Conservation, Division of Marine Resources/Bureau of Marine Habitat, 205 North Belle Mead Road, Suite 1, East Setauket, NY 11733

Responsibilities: Coordinates NYS participation in the PEP, with an emphasis on habitat protection and restoration, stormwater control, and nutrient management.

Education & Outreach Coordinator, Lauren Scheer (New)

Location: Suffolk County Department of Health Services, 300 Center Drive, Room 204N, Riverhead, NY 11901

Responsibilities: Coordinates activities at Stony Brook Research Foundation in support of PEP. Acts as the lead for all outreach and education activities for PEP focusing on the four goals laid out in the 202CCMP.

Table 1: PEP Budget Summary

	FY21 Request	**Notes**
Personnel (+fringe)	$395,484	
Travel	$9,500	
Equipment	0	
Supplies	0	
Contracts or Sub-awards	0	
Other	$9,728	Includes costs for printing & production, website development and services, advertising, telephone
Total Direct	**$414,712**	
Indirect (26%)	*107,825*	
Total EPA §320 Funds Request	**$522,537**	
NYS Match	TBD	
Suffolk County Match	TBD	
Total Project Cost	**$1,045,074**	

* Detailed budget information is available in Appendix A of this workplan.

FY21 Workplan

This workplan includes all projects which PEP plans to be involved with in the coming fiscal year. 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. In light of this continued focus on partnership, some of PEP's staff time will focus 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 projects are not currently included in previous years' §320 workplans or awards. FY21 §320 funds are also requested to support **ongoing projects**, unless specified otherwise. There are several ongoing projects for which **no new funds** are requested; these are wholly funded by previous §320 Budgets and Grant Awards.

Table 2 outlines the project type, FY21 funding request, and PEP role for each task in the workplan.

Table 2: Summary of CCMP Actions addressed in FY21 workplan

CCMP Action	Description	Project Type	Funding requested from FY21 §320 award:	PEP Role
Action 1	Task 1: Organizational Assessment	Ongoing	Staff time	Lead
Action 2	Task 2: CCMP Tracking System	Ongoing	Staff time	Lead
Action 4	Task 3: Financial Plan	Ongoing	Staff time	Lead
Actions 6, 7, 8, & 9.	Task 4: PEP Education and Outreach	New	Staff time	Lead
Action 11	Task 6: 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.	Ongoing	Staff time	Lead
Action 13	Task 7: NYS Ocean Acidification Taskforce – National Ocean Acidification Network	Ongoing	Staff time	Supporting partner
Action 16 & 18	Task 8: Continuous Water Quality Monitoring	Ongoing	None	Supporting partner
Action 17	Task 9: Water Quality Monitoring Collaborative	Ongoing	Staff time	Lead
Action 17	Task 10: LINAP	Ongoing	Staff time	Supporting partner
Action 17	Task 11: Peconic Estuary Solute Transport Model	Ongoing	Staff time	Supporting partner
Action 18	Task 12: Subwatershed Plan	Ongoing	Staff time	Supporting partner
Action 18	Task 13: Village of Greenport Sewer Extension	Ongoing	Staff time	Supporting partner
Action 18	Task 14: Green Infrastructure Homeowner Rewards Program and Resident Nutrient Management	Ongoing	Staff time + FY20 funds	Lead
Action 21	Task 15: PEPC	Ongoing	Staff time	Supporting partner
Action 21	Task 16: Meetinghouse Creek Engineering Design Services	Ongoing	Staff time + FY18 and FY19 §320 funds	Lead partner + Town of Riverhead
Action 23	Task 17: Ecosystem-Based Model of the Peconic Estuary	Ongoing	Staff time	Lead partner + Stony Brook University and NYSDEC
Action 29	Task 18: Complete design and	Ongoing	Staff time	Lead Partner

CCMP Action	Description	Project Type	Funding requested from FY21 §320 award:	PEP Role
	construction of diadromous fish passage projects on the Peconic River			
Action 29	Task 19: Complete design and construction of diadromous fish passage projects in other priority tributaries in the Peconic Estuary watershed	Ongoing	Staff time	Lead partner
Action 29	Task 20: Alewife Monitoring on the Peconic River	Ongoing	Staff time	Lead partner
Action 30	Task 21: Carry out Eelgrass Aerial Survey	Ongoing –NYS EPF funding	Staff time	Co-lead partner with LISS and NYSDEC.
Action 30	Task 22: Convene an Eelgrass sub-workgroup	New	Staff time	Lead Partner
Action 31	Task 23: Work with the Natural Resources Subcommittee to secure funds and implement the top priority projects from the 2020 Habitat Restoration Plan	New	Staff time	Lead partner
Action 31	Task 24: Implement priority wetland restoration projects identified in the PEP Habitat Restoration Plan	Ongoing	Staff time	Lead
Action 33	Task 25: Living Shoreline Stakeholder Education	Ongoing	Staff time	Co-lead partner with NYS Sea Grant and NYSDEC
Action 34	Task 26: Continue to expand monitoring of key species and convene a workgroup to develop a habitat restoration and protection strategy for horseshoe crabs.	New	Staff time	Lead Partner

CCMP GOAL: STRONG PARTNERSHIP AND ENGAGEMENT

Objective A: Enhance PEP's organizational structure, operational practices, and financial position to support successful implementation of CCMP Actions.

ACTION 1: Finalize and implement the updated PEP Organizational Plan.

Performance Measure: Addition of the updated PEP Organizational Plan to this CCMP document within 3 years of the final Revised CCMP and will outline the recommendations adopted by the Policy and Management Committee.

Task 1: Organizational Assessment

Ongoing- no new funds (FY18 Workplan and Budget)

a. **Estimated Budget:** Staff Time
b. **Partners and their roles:** PEP (Lead Partner), PEP Management Conference, Stony Brook
c. **Description and Objectives:** The contractor has completed their tasks. The Organizational Assessment is under review by the Management Conference.
d. **Outputs and Deliverables:** A Final Organizational Strategy Report with Roles and Responsibilities, By-Laws, and Guiding Principles.
e. **Estimated Milestones:** Completion in December 2021.
f. **Long Term Outcomes:** A stronger national estuary program whose committees and all members and partners have a clear understanding of how to achieve our mission and how we work together to strengthen the organization.
g. **Clean Water Act Core Programs**: N/A

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

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

Task 2: CCMP Tracking System

Ongoing

a. **Estimated Budget**: Staff time
b. **Partners and their roles**: PEP (Lead Partner), PEP TAC
c. **Description and Objectives:** To help facilitate implementation of the 2020 CCMP, PEP is developing a new section of the PEP website that shows progress on implementation of Actions.
d. **Outputs and Deliverables**: An on-line tool for tracking CCMP success.
e. **Estimated Milestones**: Completion December 2023.
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.
g. **Clean Water Act Core Programs**: N/A

ACTION 4: Secure increased funding as part of a final Financial Plan to ensure successful implementation of all CCMP Actions.

Performance Measure: Release of a final Financial Plan within 3 years of the final Revised CCMP that includes potential sources of new and increased funding, as well as a strategic outline to securing such funding.

Task 3: Financial Plan

Ongoing

a. **Estimated Budget:** Staff time
b. **Partners and their roles:** PEP (Lead Partner), USEPA, Stony Brook
c. **Description and Objectives**: The finalization of a Financial Plan as specified in the EPA 2017 Program Evaluation to provide robust funding for PEP to carry out the CCMP Actions. Details within the Financial Plan will outline plans to pursue expanded initiatives to obtain increased funding in support of CCMP implementation.
d. **Outputs and Deliverables**: A Financial Plan for PEP.
e. **Estimated Milestones:** Completion December 2023
f. **Long Term Outcomes**: Implementation of the Financial Plan for a long term strategy will allow for the financial growth of PEP to diversify funding and allow PEP to grow.
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.

Task 4: PEP Education and Outreach Program

Ongoing and New – Previously the Education and Outreach was carried out with a contract. During FY21, the Outreach Coordinator will be a direct hire of the program. This is a new facet of the program. This will mean a restructuring of outreach during this time with a continued focus on CCMP outreach activities, community relations, and securing existing partnerships while welcoming new ones.

a. **Estimated Budget:** Staff Time
b. **Partners and their roles:** PEP (Lead Partner), SOMAS
c. **Description and Objectives**: CAC implementation, Continued maintenance and creation of new partnerships as appropriate that expand outreach efforts, CCMP related information

dissemination, continued citizen science and community volunteer opportunities, and maintaining and developing digital outreach activities and initiatives,

d. **Outputs and Deliverables**: up to 4 CAC meetings per year, relevant programs and initiatives to expand outreach (including with partners), Annual strategy development with CAC Chair and PEP Director, social media and digital communication with public and CAC members, outreach materials including up to four PEP Newsletters per year, Wildlife Monitoring Network website, PEP website (outreach section), Alewife training, beach clean-up event, and participation in at least one community-science based event.
e. **Estimated Milestones**: CAC meetings (up to four)
f. **External Constraints**: covid restrictions may inhibit some of these activities
g. **Long Term Outcomes:** To achieve Objective B of the 2020 CCMP and empower communities to support estuary health
h. **Clean Water Act Core Programs**: All

ACTION 9: Incorporate environmental justice considerations into public education and outreach materials and events - The PEP will expand its efforts to be inclusive of underrepresented members of local communities.

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.

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

Task 6: 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

New

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

Task 7: 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).

Task 8: Continuous Water Quality Monitoring

Ongoing

a. **Estimated Budget:** Approximately $150,000 annually funded through the USGS and 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).
c. **Description and Objectives:** USGS maintains two continuous water quality monitoring stations in the Peconic Estuary, one located at the mouth of the Peconic River under the County Road 105 bridge in Riverhead and one in Orient Harbor. These two 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 climate and other incremental changes; estimates of frequency, severity, and duration of hypoxia and anoxia**.** A third USGS station was installed at the Shelter Island Ferry South Ferry site in Shelter Island Sound to provide a tide-warning system. Additional water quality monitoring equipment will be added as funding is available through the Suffolk County Capital Budget.
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.

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

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

Task 9: Water Quality Monitoring Collaborative

New

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.

Task 10: Long Island Nitrogen Action Plan (LINAP)

Ongoing

a. **Estimated Budget**: Staff time
b. **Partners and their roles:** NYSDEC and the Long Island Regional Planning Council (LIRPC), in partnership with numerous local governments and interested organizations on Long Island. 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 2021. 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.

d. **Outputs and Deliverables**: Strategy Plan with LINAP identifying areas for collaboration.
e. **Estimated Milestones:** Quarterly 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.

Task 11: 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 FY20. In FY21, finalize report and disseminate and communicate results to stakeholders.
f. **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.
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.

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.

Task 12: Suffolk County Subwatersheds Wastewater Plan (SWP)

Ongoing

a. **Estimated Budget:** Staff time
b. **Partners and their roles**: Suffolk County Department of Health Services (funding agency), Long Island Sound Study, South Shore Estuary Reserve, PEP (Supporting Partner).
c. **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. The SWP is an early action element of the LINAP and will guide County wastewater policy by providing a map and narrative depicting the location, number, and location specific- methodology for required sanitary upgrades using a phased approach linked to current and predicted ecological and public health risks. PEP will work to provide information that local governments need to reduce nitrogen loading.
d. **Outputs and Deliverables**: PEP will develop a strategy plan with Suffolk County identify communities in the high need area (Level 1) to focus PEP efforts for Septic Improvement.
e. **Estimated Milestones**: Quarterly calls/ and or meetings between PEP and Suffolk County.
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.

Task 13: 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 2022.
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 been delayed due to COVID-19.

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.

Task 14: Green Infrastructure Homeowner Rewards Program and Resident Nutrient Management

Ongoing

a. **Estimated Budget:** §320 funds: Staff Time and FY20 Funds
b. **Partners and their roles:** PEP (Lead partner) and Stony Brook
c. **Description and Objectives:** The Peconic Estuary Partnership (PEP) Homeowner Rewards Program provides 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.
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.
g. **Clean Water Act Core Programs:** 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: Development of a Quality Assurance Management Plan (QAMP) to enable sampling, analysis, and reporting of ground and surface water by municipalities for use in NYS, Suffolk County, and East End Municipality decision making and management actions.

Task 15: Peconic Estuary Protection Committee (PEPC) (Intermunicipal Agreement for Stormwater Management)

Ongoing

a. **Estimated Budget**: Staff time, $15,000 Suffolk County Capital Budget Funds and member municipality dues.
b. **Partners and their roles:** PEPC Coordinator (Lead), PEP (Supporting Partner), Towns of Brookhaven, Shelter Island, Southampton, Southold, and Riverhead and the Villages of Sag Harbor, North Haven and Greenport, Suffolk County, NY State Department of Transportation (NYSDOT).
c. **Description and Objectives:** PEP established a collaboration of East End municipalities to share resources and work together on projects to reduce stormwater runoff, reduce pollution from septic system discharges, agricultural and residential fertilization, groundwater flows, illegal dumping, floatable debris and boat waste.
d. **Outputs and Deliverables**: Assistance with MS4 compliance. Public signage related to storm drains and the importance of storm water management**.** The QAMP was completed in FY20. In the FY21 year, we will continue to work with the PEPC Coordinator on stormwater management, inter-municipal coordination and assisting Towns and Villages in developing QAPPs outlined under the approved QAMP.
e. **Estimated Milestones:** Bi-monthly PEPC meetings.
f. **Long Term Outcomes**: The East End municipalities and Suffolk County working together to both ensure MS4 compliance and further non-point source pollution solutions
g. **Clean Water Act Core Programs:** Elements of this project prevent or mitigate the impacts of nutrient pollution.

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.

Task 16: Meetinghouse Creek Engineering Design Services

Ongoing- no new funds (FY18 Workplan and Budget)

a. **Estimated Budget:** §320 funds: $150,000 (from FY18)
b. **Partners and their roles:** PEP (Lead Partner), Town of Riverhead (Property Owner, Engineering Supervision), NEIWPCC (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. This contract continues through FY21 with a completion date of March 2023.
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. Estimated completion of engineering design by March 2023.
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. **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.

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.

Task 17: Ecosystem-Based Model of the Peconic Estuary

Ongoing

a. **Estimated Budget**: Staff time, $200,000 NYS PEP EPF FY18 Funds
b. **Partners and their roles:** PEP (Lead Partner), NYSDEC (Funding Entity), The Research Foundation at Stony Brook University (Contractor).
c. **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.
d. **Outputs and Deliverables:** ECOSIM and ECOPATH Model, plan and facilitate meetings.
e. **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 2023.

f. **Long Term Outcomes:** An understanding of the food web dynamics and organism/habitat interactions will allow for optimized planning for the Peconic Bays.
g. **External Constraints:** Project is behind schedule due to Covid-19 delays.
h. **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.

Task 18: 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.
e. **Estimated Milestones:** Completion of Woodhull Dam Fish Passage construction by March 2022. Final engineering designs and permits expected for Upper Mills Dam Fish Passage by fall 2021, secure construction funds by December 2022.
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.

18a Woodhull Dam: The Permitting Services for Construction of a Fish Passage at the Woodhull Dam, Town of Riverhead contract through Suffolk County Parks is complete and funding for the construction of the dam has been secured through a NYSDEC Water Quality Improvement Grant, Suffolk County Capital Budget, Suffolk County Fund 477, USFWS National Fish Passage Fund, and Town of Southampton CPF funds (anticipated). Ninety-five (95) acres of freshwater habitat will be opened with project completion. Construction for this project is now underway. The construction of the fish passage project is anticipated to be complete before spring 2022.

Estimated Budget: $876,066, Staff Time
External Constraints: There have been unforeseen delays due to financial and operational priorities of the COVID19 health crisis. These factors have caused the Suffolk County capital

funds to be delayed. Additionally, the original project amount has increased during the duration of this project and additional funds were sought from Town of Southampton, United States Fish and Wildlife Service and Suffolk County.

18b Upper Mills Dam- PEP is due to complete Engineering Design and Permitting Services for Construction of a Fish Passage at the Upper Mills Dam, Town of Riverhead in FY20. The FY21 timeframe will see PEP working with project partners to secure funding for the construction of this fish passage.

Estimated Budget: $129,000 (Suffolk County) for engineering and permitting and $1.4M for construction (not secured), plus Staff time
External Constraints: There were initial significant delays to this project resulting from land owner (PSEG) approval to carry out survey work for this project. Permitting process has presented delays as well.

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.

Task 19: 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.

19a: Lake Montauk –

In 2019 PEP completed a conceptual habitat restoration design plan to restore connectivity for diadromous fish species between Lake Montauk and Big Reed Pond by replacing an undersized culvert and between Lake Montauk and Stepping Stones Pond by replacing an undersized, impassable culvert under Old West Lake Drive and removing debris. The project was delayed in FY20 due to COVID-19 and funding uncertainties, but Suffolk County Capital funds have been secured to replace the culvert that leads to Big Reed Pond. PEP staff anticipates working with Suffolk County parks to complete the permitting and construction of this project in FY21. PEP staff is also working with partners to secure funding to complete engineering design plan and construction of the culvert leading to Stepping Stones Pond.

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. Suffolk County capital funds are delayed due to COVID19.

19b: 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.

Task 20: Alewife Monitoring on the Peconic River

On-going

a. **Estimated Budget:** Staff time, Supply funds ($500) via Sec. 320 correct?
b. **Partners and Roles:** PEP (lead), NYSDEC, Suffolk County Community College, Cornell Cooperative Extension, 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 2022. Hold two trainings winter 2022 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.

Task 21: 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 2021, Ground truthing expected to be completed fall 2021. Analysis and reporting expected to be completed spring 2022.
f. **External Constraints:** Potential delays in NYS Funding
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.

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.

Task 22: Convene an eelgrass sub-workgroup

New

a. **Estimated Budget:** Staff time
b. **Partners and their roles:** PEP (Lead Partner)
c. **Description and Objectives:** Convene an eelgrass sub-workgroup to determine next steps for eelgrass protection and protection. The results from the recently completed Seagrass Bio-optical

and Habitat Suitability Models will be used to identify suitable restoration or enhancements projects. The sub-workgroup will consist of the following partners: NYSDEC, Stony Brook University, CCE, TNC, Municipal staff, and potential representatives from other LI Estuary Programs.

d. **Outputs and Deliverables:** Identify and carry-out suitable eelgrass restoration or enhancement projects.
e. **Estimated Milestones:** Meetings twice per year.
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 shoreline resiliency tools to prioritize wetland restoration projects identified in the 2020 PEP Habitat Restoration Plan and implement the top projects.

Performance Measure: Identification of the top five projects from the 2020 Habitat Restoration Plan that have yet to be initiated and funds secured for conceptual design plans.

Task 23: Work with the Natural Resources Subcommittee to secure funds and implement the top priority projects from the 2020 Habitat Restoration Plan

New

a. **Estimated Budget:** Staff time
b. **Partners and their Roles:** PEP (Lead Partner), NYSDEC, Suffolk County, East End Towns, Environmental and Academic Partners
c. **Description and Objectives:** The 2020 Habitat Restoration Plan is a comprehensive plan that is a culmination of numerous stakeholder meetings and communications with the East End Towns and partners. Then plan outlines goals, objectives, actions to guide habitat restoration and protection in the Peconic Estuary watershed over the next 10 years. The 2020 Peconic Estuary Partnership Habitat Restoration Plan also includes a list of priority habitat restoration projects that align with the defined goals/objectives, potential funding sources, and habitat restoration resources. The overall goal of the 2020 Peconic Estuary Partnership Habitat Restoration Plan is to protect and restore Peconic Estuary habitats to support ecosystem function. Recently PEP staff worked with the Natural Resources Subcommittee to identify the top priority projects in the HRP based on partner input and available ecological prioritization tools; these can be found in the plan. The following wetland projects were identified as current top priorities: Narrow River Wetland Restoration, Paul Stoutenburgh Wetland Restoration, Peconic River Shoreline/Wetland Restoration, Widow's Hole Living Shoreline Phase II, Accabonac Harbor Wetland Restoration and Shelter Island Marsh Restoration. Some of the projects are already in-progress, while others have yet to be initiated. PEP will work with partners to continue to advance in-progress projects and initiate new priority projects.
d. **Outputs and Deliverables**: Secure funds and complete Conceptual Habitat Restoration Design Plans for the top priority projects that have yet to be initiated: Accabonac Harbor Wetland Restoration (East Hampton), Shelter Island Marsh Restoration, Peconic River Wetland Restoration (Southampton), and Widow's Hole Living Shoreline Phase II.
e. **Estimated Milestones**: Meetings with partners to define potential restoration work and identify funding opportunities.

f. **External Constraints**: Securing funds for all projects is subject to availability of funds in the next fiscal year, stakeholder participation, etc.
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 Paul Stoutenburgh Preserve

Task 24: Implement priority wetland restoration projects identified in the PEP Habitat Restoration Plan

Task 24a: Work with partners to secure funds for 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 will work with Town of Southold to hire a contractor 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 will move forward in FY21..
g. **Long Term Outcome:** The benefits of habitat restoration efforts will be seen over a long period of time, but will result in enhancement of existing resources and/or restoration of habitats that have been lost or degraded.
h. **Clean Water Act Core Programs**: Wetland Protection

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

Task 24b: 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 2021
f. **External Constraints:** This project has experienced severe delays to date. The funds are currently expiring in December 2021. 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

Task 24c: Work with Partners to Secure Funds for Narrow River Wetland Restoration Project

Ongoing

a. **Estimated Budget**: Staff time
b. **Partners and their roles**: PEP (Co-Lead), 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. PEP is working with partners to secured funding for engineering design plans and construction.

d. **Outputs and Deliverables**: Final engineering design, permitting, and implementation of wetland restoration at site
e. **Estimated Milestones**: Project funds secured by December 2021 (pending grant funding). Construction of the project is anticipated to occur in 2023 (pending grant funding).
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

Task 24d: Complete engineering designs and construction of the Cedar Beach Creek Wetland Restoration to restore 5 acres of wetland habitat

New

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:** Permitting may delay the completion of this milestone
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.

Task 25: Living Shoreline Stakeholder Education

Ongoing

a. **Estimated Budget:** Staff time
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 scope and MOU with Sea Grant by December 2021. Kick-off project in 2022.
f. **External Constraints**: NYSDEC funding is uncertain at this time due to COVID19.
g. **Long Term Outcomes:** Property owners will install living shorelines in place of hardened shorelines. Each completed living shoreline project will serve as a demonstration to promote and track benefits of living shorelines as an alternative to hardened shoreline.
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

Task 26: Continue to expand monitoring of key estuary species and convene a sub-workgroup to develop a habitat restoration and protection strategy for horseshoe crabs.

New

a. **Estimated Budget:** Staff time
b. **Partners and their roles:** PEP (Lead Partner), Seatuck Environmental Association, CCE, NYSDEC
c. **Description and Objectives**: 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. **External Constraints**: NA
g. **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.
h. **Clean Water Act Core Programs**: Wetland Protection

IV. BUDGET DETAILS

Resources Requested

The total requested in this PEP budget to Stony Brook is **$522,537** Attachment A provides the FFY2021 itemized budget for this grant application. This grant will be complimented by a request for PEP support to Suffolk County Department of Health Services in the amount of $177,463, and together these two components make up the full Peconic Estuary Partnership FFY2021 workplan for a total grant request of $700,000.

Non-Federal Match: NYSDEC will provide **$522,537**for the Stony Brook RF grant application (CE-96250200-0). Suffolk County will provide **$177,463** to match the grant application for Suffolk County Department of Health Services (CE-99200221-0).

The nonfederal 50% match requirement certification for the FY21 allocation will be included in the Suffolk County FY21 application for grant #99200221-0 and satisfies the requirement for new funds

Trips Anticipated for FFY2021:* Anticipated all trips to change to remote until Autumn 2021 due to COVID19 restrictions in New York. Local travel is limited due to covid restrictions but is anticipated to return to normal Fall 2021. Travel for outreach is expected to commence January 2022.

Date	Meeting/Event	Purpose	Destination	Number of Staff	Estimated Cost
Fall 2021	ANEP Fall Meeting	Tech Transfer	Tampa, FL	2 (Director and State Coordinator)	$3,200
Nov 1-4, 2021	CERF	Coastal and Estuarine Research Foundation 2021 biennial conference	virtual	2 (Director and State Coordinator)	$600
Nov 6-10 2021	American Fisheries Society	Presentation – Alewife monitoring results	Baltimore, MD	State Coordinator	$1,500
February/March TBD, 2022	NEP meeting - EPA HQ	Required EPA meeting	Washington, DC	1 (Director)	$1,500
FY 2021	Local travel	Meetings / events	local	4 (all staff)	$2,700

Trips Taken During FFY2020

N/A

Date	Meeting/Event	Purpose	Destination	Number of Staff	Final Cost

Trips Expected to Occur Between Date of Submission and End of FFY2021

N/A

Approximate Date	Meeting/Event	Purpose	Destination	Number of Staff	Estimated Cost

Appendix A: Detailed Budget

FY21 EPA §320 Budget (CE-96250200-0)	
Description	**FY21 Cost**
Program Office	
Personnel (Salary + Fringe)	-
Director	$ 163,215
Program Coordinator	$ 77,423
State Coordinator	$ 77,423
Outreach Coordinator	$ 77,423
SUB-TOTAL	$ 395,484
Supplies	$ -
Travel	$ 9,500
Other	$ 9,728
SUB-TOTAL	$ 414,712
Indirect (26%)	$ 107,825
TOTAL STONY BROOK RF DIRECT CHARGES	**$ 522,537**
Total Match DEC	**$ 522,537**
Total EPA Grant	**$ 1,045,074**

Appendix B: Match Documentation

The nonfederal 50% match requirement certification for the FY21 allocation will be included in the Suffolk County FY21 application for grant #99200221-0 and satisfies the requirement for new funds.