



**2016 Implementation Progress Report**

**Eelgrass Management Plan for the  
Peconic Estuary**

**Submitted to:**  
**Peconic Estuary Program Management Committee**  
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**Prepared by:**  
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## **INTRODUCTION**

The “Eelgrass Management Plan for the Peconic Estuary” was adopted and finalized in June 2009. In an effort to ensure the Peconic Estuary Program (PEP) meets the objectives outlined in the Plan and implements the management actions and action steps detailed in the Plan, the PEP Natural Resources Subcommittee (NRS) has committed to track its implementation. The NRS develops and submits an annual Implementation Progress Reports (IPRs) to the Peconic Estuary Program Management Committee. This ensures proper accounting and tracking of implementation progress and provides an adaptive and timely mechanism for notifying the Management Committee of new priorities, needs, and recommendations. The following is a brief assessment of actions taken from *June 2012 to June 2016*.

## **MAJOR ACCOMPLISHMENTS**

### **1. Seagrass Protection Act Bill**

*(Action Step 1.1.3)*

The Seagrass Protection Act resulted from recommendations to the Legislature in the Final Report of the New York State Seagrass Task Force and was signed into law by the NY State Governor in 2013. The act authorizes the New York State Department of Environmental Conservation (NYSDEC) to adopt rules and regulations to regulate coastal and marine activities that threaten seagrass. The act directs the designation of Seagrass Management Areas and subsequent Management Plans in consultation with local governments and stakeholders.

### **2. NYSDEC Seagrass Coordinator Position**

*(Action Step 1.1.3, 4.1)*

A State Seagrass Coordinator was hired through the Atlantic States Marine Fisheries Commission in 2015 and assigned the Division of Marine Resources, NYSDEC, to develop seagrass conservation management following the Seagrass Task Force Report and the Seagrass Protection Act management planning efforts. The State Seagrass Coordinator has initiated seagrass conservation planning for NY waters that aims to preserve the best remaining examples of this habitat and has utilized the Peconic Estuary 2014 aerial survey to prioritize management areas. The state is promoting a collaborative approach to management planning for localized seagrass areas and Shelter Island municipal officials and civic stakeholders have been addressed regarding the eelgrass meadows around their island community. Town of Southold officials and civic organizations of the Fishers Island community have also been approached. Additional candidate area field inspections have been conducted in waters of the Town of East Hampton.

### **3. FY2012 National Estuary Funds**

*(Action Steps 4.2 and 5.3.1)*

As identified in 2012, approximately \$80,000 of the annual funds available to the PEP, have been identified for use to further investigate the interactions of light and eelgrass survival (bio-optical model). These funds will also be used to help narrow the determination of acceptable nitrogen levels for eelgrass survival within the Peconic Estuary. These funds have been appropriated and a *Request for Proposals* was issued for “**Development of Bio-optical Model and Refined Site Suitability Model to Enhance Eelgrass Protection and Restoration Efforts.**” The Research Foundation of SUNY Stony Brook is the selected contractor and the work is expected to be completed in 2018.

#### **4. Benthic Mapping of Submerged Aquatic Vegetation**

*(Action Steps 3.1 and 5.1)*

As noted last year, Suffolk County has re-programmed benthic mapping funds so an aerial survey for Submerged Aquatic Vegetation (SAV) can be completed for the Peconic Estuary. This survey was completed in April of 2014. According to Cornell Cooperative Extension of Suffolk County (CCE), there were over 8,700 acres of eelgrass (a conservative estimate) in the Peconic Estuary during the 1930s. Of the submerged aquatic vegetation beds delineated by the U.S. Fish and Wildlife Service (FWS) using 2000 aerial photographs, only 1,550 acres of eelgrass (comprised of 119 beds) remain. The 2014 aerial survey identified less than 90 eelgrass beds covering under 1000 acres. All the eelgrass beds remaining in the Peconic Estuary are located east of West Neck Bay, Shelter Island, except for the meadow in Bullhead Bay, Southampton. A current assessment of the distribution eelgrass beds is an integral part of managing eelgrass populations.

#### **5. 2010 PEP Mini Grant: Group for the East End & Southampton Town Trustee Eelgrass Educational Brochure**

*(Action Steps 2.1.2 and 2.1.3)*

The Peconic Estuary Program selected the Group for the East End and Southampton Town Trustees to receive a 2010 mini grant. Cooperatively, Group for the East End and the Southampton Trustees developed a brochure which details what eelgrass is, why it's important, the multiple threats to eelgrass, and actions people can take to protect the species. Efforts were coordinated with other Peconic municipalities, stakeholders, and industries to allow for distribution throughout the entire Peconic watershed.

#### **6. Ongoing - Eelgrass and Groundwater Interaction Research and Monitoring**

*(Action 4.2)*

The New York State Seagrass Task Force funded research to investigate submerged groundwater discharge and eelgrass interactions in addition to limited herbicide toxicity research. An integrated investigation of the influence of abiotic factors, particularly Submerged Groundwater Discharge and the characteristic substrate, on the spatial distribution and health of eelgrass in the Peconic Estuary was conducted resulting in the 2012 report *Submarine Groundwater Discharge in Relation to the Occurrence of Submerged Aquatic Vegetation*. Among the eight reference sites where PEP has established eelgrass monitoring beds and sanctuary areas, four sites were selected for investigation: Three Mile Harbor, East Hampton; Gardiners Bay, Shelter Island; Cedar Point, East Hampton; and Bullhead Bay, Southampton. The Peconic Estuary Program also funded additional, expanded groundwater and eelgrass interaction monitoring at beds monitored under the Peconic Estuary Program Long-Term Eelgrass Monitoring Program (PEPLTEMP).

#### **7. Ongoing - Light and Temperature Loggers**

*(Action 4.2)*

Cornell Cooperative Extension of Suffolk County commenced and expanded their research using light and temperature loggers to research and to evaluate sustainable levels for eelgrass growth and survival. In the past, water temperature monitoring was included in the PEPLTEMP report due to the placement of temperature loggers primarily within eelgrass meadows that were monitored in the program. In 2010, additional water temperature loggers were purchased and an expanded plan was enacted to cover more of the Peconic Estuary, including areas of extant

eelgrass and sites that formerly supported meadows. Starting in 2011, light data was taken primarily, at the vegetated sites within the PEP LTEMP using the Odyssey® PAR loggers. Light and temperature survey data will be presented in a separate report and data collected at the sites included in the PEPLTEMP Report (Bullhead Bay, Cedar Point, Gardiners Bay, Orient Point, Southold Bay, and Three Mile Harbor) are presented in the 2015 PEPLTEMP Report.

#### **8. PEP Ecosystem Status Report**

*(Action 3.3)*

Cornell Cooperative Extension provided a chapter for the 2015 PEP Ecosystem Status Report, outlining the status and trends of the Peconic Estuary eelgrass bed extent and shoot density.

#### **9. Harmful Algal Bloom Action Plan and Long Island Nitrogen Action Plan**

*(Action 8.1 and 8.2)*

New York Sea Grant and Suffolk County Department of Health Services will convene an Experts Workgroup of five to six top researchers in the science of Harmful Algal Blooms (HABs), their causes, development and ecological impacts to develop a set of preliminary recommendations for the Suffolk County HAB Action Plan which will be further refined by New York Sea Grant and Suffolk County Department of Health Services. The Suffolk County HAB Action Plan and Strategy will provide County officials with a coordinated plan for research, monitoring and pre-emptive management actions that can be used to minimize the likely future occurrence, duration and/or severity of HABs in County waters. The NY State Seagrass Coordinator, along with Suffolk County and Peconic Estuary Program are participating in the Long Island Nitrogen Action Plan (LINAP) planning process and activities in order to support improvements in water quality, which is a primary concern for seagrass health.

#### **10. New York State Seagrass Symposium**

*(Action 3.3 and 4.1)*

In the spring of 2016 a Seagrass Symposium facilitated a discussion about management, monitoring, research, and restoration of seagrass in NY waters. Goals included facilitating communication and awareness among scientists and managers. In addition to share resource status/trends, and provide an update on recent and future activities and a forum to discuss issues, questions, priorities and direction of seagrass management.

### **SHORTCOMINGS & CHALLENGES**

1. The current monitoring program should be continue expand to investigate the effects of temperature, groundwater, physical disturbance and other potential variables that affect the health of eelgrass beds. More frequent mapping efforts and continued long-term eelgrass monitoring are important, especially due to the lack of frequent aerial surveys, going forward to identify trends in health threats to the declining eelgrass population and formulate appropriate responses to these threats in a timely manner. The Peconic Estuary Program Long-Term Monitoring Program will be reviewed to determine whether it could be made more effective by replacing the four meadows that no longer support eelgrass with four new meadows that would provide relevant data on eelgrass health in the Peconic Estuary.
2. Long term funding needs to be identified in order to conduct timely (every two to five years) inventories of the eelgrass resource with the Peconic Estuary.

**RECOMMENDATIONS**

1. As reported in previous years, it is a high priority to conduct an eelgrass inventory every two to five years. The 2014 PEP sponsored inventory yielded critical information that will inform PEP and other partners on future management options for eelgrass.
2. Continue to support the NYSDEC Seagrass Coordinator and reach out to partner with this staff person. The coordinator should continue the effort to establish Seagrass Management Areas and develop stakeholder-drive Seagrass Management Area Plans. Support efforts to engage with partners with an annual workshop.
3. Ensure that East End elected officials, stakeholders and government agencies understand the importance and have enough information to further educate, engage, and foster local implementation of management actions in conjunction with all involved partners.
4. Continue all ongoing efforts, including implementation of the new projects and initiatives outlined under the “Major Accomplishments” heading.

**IMPLEMENTATION TRACKING TABLE**

Below, is an Implementation Tracking Table which reports progress made under each objective, management action and action step in the “Eelgrass Management Plan for the Peconic Estuary” during the period of June 2015- June 2016.

**Eelgrass Management Plan for the Peconic Estuary: Implementation Tracking Table**

<b>Objective 1: Enhance protection of existing and future eelgrass beds from physical disturbances.</b>	<b>June '15-June '16 Progress</b>
<p><b>Management Action 1.1:</b> Identify and promote new protection measures (regulatory mechanisms at all level of government). Particular attention immediately directed to areas where eelgrass beds recently disappeared, such that disturbances can be limited to allow for natural re-vegetation.</p>	
<p><b>Action Step 1.1.1:</b> Designate appropriate eelgrass and eelgrass habitat areas as “shellfish spawner sanctuaries”, “eelgrass sanctuaries”, “eelgrass management areas”, “habitat management areas” and limit activity in and around said areas. <i>Responsible entity: NYSDEC, Town Board/Trustees</i> <i>Timeframe: Immediate and Ongoing</i></p>	<p>Eelgrass Sanctuaries have been established in Napeague Harbor, East Hampton (East Hampton Trustees, April 2008) and Bullhead Bay, Southampton (Southampton Town Trustees, Dec 2009). Shellfish harvesting and other harmful activities are prohibited.</p>
<p><b>Action Step 1.1.2:</b> Implement area restrictions, gear restrictions, activity restrictions in and/or near eelgrass. <i>Responsible entity: NYSDEC, Town Board/Trustees</i> <i>Timeframe: Long Term (10 years)</i></p>	<p>Some Towns prohibit churning in eelgrass beds. Some Towns have also created shellfish spawner sanctuaries in/near eelgrass and implement restrictions in those sanctuaries and buffer areas.</p>
<p><b>Action Step 1.1.3:</b> Adopt new, New York State regulations (legislation if necessary) specific to the protection and conservation of eelgrass. <i>Responsible entity: NYSDEC</i> <i>Timeframe: Long Term (10 years)</i></p>	<p>Seagrass Protection Act bill (S4287A-2012, same as A7988-2012) introduced March 2012, <a href="http://open.nysenate.gov/legislation/bill/S4287A-2012">http://open.nysenate.gov/legislation/bill/S4287A-2012</a>. Approved by both houses. Governor signed into law on July 31, 2012. Initiated by the Seagrass Protection Act Bill, the NYSDEC Seagrass Coordinator position was filled in 2015.</p>
<p><b>Management Action 1.2:</b> Identify areas where eelgrass exists and maintenance navigational dredging or excavation activities are needed; in those cases, implement a dredging window and material placement strategy that maximizes eelgrass protection. <i>*Please note that dredging for purposes of increasing flushing may also be beneficial to eelgrass beds. See Management Action 6.3.</i> <i>Responsible entity: PEP NRS, Towns Board/Trustees</i> <i>Timeframe: Short Term (5 years)</i></p>	<p>No substantial progress to report.</p>
<b>Objective 2: Increase stakeholder, user group, and public awareness of eelgrass and the importance of the species in an effort to foster responsible steward-like resource enjoyment.</b>	<b>June '15-June '16 Progress</b>
<p><b>Management Action 2.1:</b> Build awareness of eelgrass bed locations and the importance of eelgrass through a public education/outreach campaign; special attention to identifying and promoting citizens/stakeholder/user group actions.</p>	<p>NYSDEC hired a Seagrass Coordinator in 2015. This position will address most management actions within this section.</p>
<p><b>Action Step 2.1.1:</b> Design and install signs at waterfront public access points, including marinas and boat ramps. <i>Responsible entity: PEP NRS, PEP CAC, NYSDEC, Town Board/Trustees, Marina operators</i> <i>Timeframe: Immediate and Ongoing</i></p>	<p>No substantial progress to report.</p>

<p><b>Action Step 2.1.2:</b> Work with boating and fishing associations to promote less harmful practices to eelgrass habitat and incorporate educational materials with boat registrations and fishing, shellfishing and access permits, passes and licenses.</p> <p><i>Responsible entity: PEP NRS, PEP CAC, NYSDEC, NYS DMV, AMI, Town Trustees, Fishing and Boasting Assoc.</i></p> <p><i>Timeframe: Immediate and Ongoing</i></p>	<p>Included info on the value of eelgrass and how to protect eelgrass in the 2015 Association of Marine Industries (AMI) Boaster's Guide. Group for the East End /Southampton eelgrass brochure should be included with all permits and licenses (<a href="http://www.peconicestuary.org/reports/a2e19e61fca4124c6dd07e8535afca4f4eec7ecd.pdf">http://www.peconicestuary.org/reports/a2e19e61fca4124c6dd07e8535afca4f4eec7ecd.pdf</a>). The AMI website features the ecological importance of the Peconic Estuary.</p>
<p><b>Action Step 2.1.3:</b> Develop and distribute up-to-date education materials that will improve public understanding of the value, habitat requirements, status, and trends of eelgrass.</p> <p><i>Responsible entity: PEP CAC, CCE, NY Sea Grant</i></p> <p><i>Timeframe: Immediate and Ongoing</i></p>	<p>Included info on the value of eelgrass and how to protect eelgrass in the 2015 AMI Boaster's Guide. Group for the East End &amp; Southampton Town Trustees produced brochure for all East End Towns to use and distribute.</p>
<p><b>Objective 3: Build an established, consistent and comprehensive eelgrass inventory program and sentinel monitoring program.</b></p>	<p style="text-align: center;"><b>June '15-June '16 Progress</b></p>
<p><b>Management Action 3.1:</b> Perform eelgrass inventories and mapping efforts in the Peconic Estuary every two (2) years.</p> <p><i>Responsible entity: PEP NRS (lead), NYSDEC, NYS DOS, USFWS, CCE</i></p> <p><i>Timeframe: Immediate and Ongoing</i></p>	<p>PEP has completed an aerial survey of the Peconic Estuary in April 2014 and produced a 2015 report on the Peconic Estuary seagrass inventory (<a href="http://www.peconicestuary.org/reports/5d185038a698efd7562b07c3417b26179d2f1b2c.pdf">http://www.peconicestuary.org/reports/5d185038a698efd7562b07c3417b26179d2f1b2c.pdf</a>).</p>
<p><b>Management Action 3.2:</b> Coordinate efforts with other Long Island seagrass mapping initiatives to support consistency through the New York State Seagrass Task Force.</p> <p><i>Responsible entity: PEP NRS, NYSDEC, NYS Seagrass Taskforce, LISS, SSER</i></p> <p><i>Timeframe: Ongoing</i></p>	<p>PEP has completed an aerial survey and inventory of the Peconic Estuary in 2014 with hopes to coordinate seagrass mapping efforts with Long Island Sound Study and the South Shore Estuary Reserve in coming years.</p>
<p><b>Management Action 3.3:</b> Ensure results are reported to and easily accessible by stakeholders, local governments, and other permitting government agencies in the Peconic Estuary.</p> <p><i>Responsible entity: PEP Program Office</i></p> <p><i>Timeframe: Ongoing</i></p>	<p>Annual PEP Long Term Eelgrass Monitoring Program (PEPLTEMP) Reports are posted to the PEP website for easy access. The 2015 Peconic Estuary Program Ecosystem Status Report outlines the status and trends of eelgrass bed extent and shoot density according to the PEPLTEMP Reports (<a href="http://www.peconicestuary.org/reports/5d185038a698efd7562b07c3417b26179d2f1b2c.pdf">http://www.peconicestuary.org/reports/5d185038a698efd7562b07c3417b26179d2f1b2c.pdf</a>).</p>
<p><b>Objective 4: Improve our knowledge and understanding of eelgrass through research initiatives to ensure that efforts to protect and restore resources are successful and effective. [Impacts of climate change and sea level rise are to be addressed under this objective].</b></p>	<p style="text-align: center;"><b>June '15-June '16 Progress</b></p>
<p><b>Management Action 4.1:</b> Establish a Peconic Estuary Program Eelgrass Workgroup to provide a forum for discussion and coordinate with New York State Seagrass Task Force efforts.</p> <p><i>Responsible entity: PEP NRS</i></p> <p><i>Timeframe: Immediate and Ongoing</i></p>	<p>NY State Seagrass Coordinator conducted a NY State Seagrass Symposium in the April 2016.</p>

<p><b>Management Action 4.2:</b> Formulate and test hypotheses through research initiatives to identify threats and factors affecting eelgrass existence, health, and restoration efforts.</p> <p><i>Responsible entity: New PEP Eelgrass Workgroup, NY Sea Grant, TNC, SUNY</i> <i>Timeframe: Ongoing</i></p>	<p>The NYS Seagrass Task Force has funded several investigations and studies in the Peconics- submerged groundwater discharge characteristics and how they may affect eelgrass, and herbicide toxicity to eelgrass-<i>Submarine Groundwater Discharge in Relation to the Occurrence of Submerged Aquatic Vegetation</i> (<a href="http://www.peconicestuary.org/reports/3d293bfcaa02308391d2f021ccbfa4c381d82921.pdf">http://www.peconicestuary.org/reports/3d293bfcaa02308391d2f021ccbfa4c381d82921.pdf</a>). PEP funded additional groundwater work and installation of light and temperature loggers, these results are included in the annual PEPLTEMP Reports. The Nature Conservancy (TNC) funding regional Genetic Diversity and Multiple Stressors research project was completed. Results can be found here: (<a href="https://www.conservationgateway.org/ConservationPractices/Marine/HabitatProtectionandRestoration/Pages/Southern-New-England-and-New-York-Seagrass-Research-Initiative.aspx">https://www.conservationgateway.org/ConservationPractices/Marine/HabitatProtectionandRestoration/Pages/Southern-New-England-and-New-York-Seagrass-Research-Initiative.aspx</a>).</p>
<p><b>Management Action 4.3:</b> Implement an adaptive eelgrass management and restoration program reflective of research results, conclusions and recommendations.</p> <p><i>Responsible entity: PEP NRS, New PEP Eelgrass Workgroup and all partners</i> <i>Timeframe: Ongoing</i></p>	<p>NY State Seagrass Coordinator is developing seagrass conservation strategy for NY waters that aims to preserve the best examples of this habitat that remains. Utilizing Peconic Estuary 2014 aerial survey to prioritize areas for Seagrass Management Area candidacy. Began reaching out to Shelter Island municipal officials and stakeholders regarding seagrass management. Qualitative inspections of candidate areas in the Town of East Hampton, which includes verifying meadows and some temperature measurements.</p>
<p><b>Objective 5: Increase eelgrass bed abundance and density through physical restoration efforts.</b></p>	<p><b>June '15-June '16 Progress</b></p>
<p><b>Management Action 5.1:</b> Assess the current quantitative restoration goal (a 10% increase in current acreage in 10 years) and set a new goal, if applicable, using the new 2009 Peconic Eelgrass Inventory and level of restoration success in the Peconic Estuary as justification.</p> <p><i>Responsible entity: New PEP Eelgrass Workgroup</i> <i>Timeframe: Short Term (5 years)</i></p>	<p>No substantial progress to report.</p>
<p><b>Management Action 5.2:</b> Develop an up-to-date Peconic Estuary eelgrass restoration tracking database (past and current) to identify restoration test plot and full scale restoration attempts, locations, restoration method used, results, etc..</p> <p><i>Responsible entity: New PEP Eelgrass Workgroup, CCE</i> <i>Timeframe: Short Term (5 years) and Ongoing</i></p>	<p>CCE has posted this info on <a href="http://www.SeagrassLI.org">www.SeagrassLI.org</a>. Other restoration attempts (some successful, though most not) are included in the Peconic Estuary Program Completed Habitat Restoration Project Inventory.</p>
<p><b>Management Action 5.3:</b> <b>Action Step 5.3.1:</b> Continue to use and refine the Peconic Eelgrass Restoration Site Suitability Index Model to identify and prioritize potential restoration locations. Adapt the model on an as needed basis as additional information becomes available (e.g. light logger data) and technologies evolve.</p> <p><i>Responsible entity: CCE (lead), New PEP Eelgrass Workgroup</i> <i>Timeframe: Ongoing</i></p>	<p>Work has begun for the Peconic Estuary Eelgrass Assessment Services by Peconic Estuary Program's selected contractor, the Stony Brook University Research Foundation. The objectives of this assessment are to calibrate a bio-optical model for Peconic Estuary, determine light requirements of local eelgrass populations, obtain measurements of optically active water quality parameters, and evaluate the potential for eelgrass recovery given the measured water quality concentrations and sediment conditions. Finally, using the output of the bio-optical model a modified eelgrass habitat suitability model will be constructed. The Eelgrass Assessment is expected to be completed in Spring of 2018.</p>
<p><b>Action Step 5.3.2:</b> Continue to monitor success of restoration efforts.</p> <p><i>Responsible entity: CCE, Towns</i> <i>Timeframe: Ongoing</i></p>	<p>Ongoing effort through CCE.</p>

<p><b>Action Step 5.3.3:</b> Identify and undertake new restoration efforts based upon results of restoration site monitoring. <i>Responsible entity: New PEP Eelgrass Workgroup, CCE, Towns</i> <i>Timeframe: Ongoing</i></p>	Ongoing effort through CCE.
<p><b>Objective 6: Ensure the existence of water quality conditions necessary for conserving, maintaining, and restoring eelgrass.</b></p>	<b>June '15-June '16 Progress</b>
<p><b>Management Action 6.1:</b> Reduce and minimize pollutant generation within the Peconic Estuary watershed.</p>	
<p><b>Action Step 6.1.1:</b> Implement regulatory and voluntary measures and initiatives to reduce nutrient pollution and create a balanced nutrient regime. These may include: turf grass (including golf courses) and landscape fertilizer management; onsite wastewater disposal system management (e.g., inspections, mandatory upgrades of substandard systems, and incentives); the use of new nitrogen removing technologies and alternative uses for Sewage Treatment Plant (STP) effluent; Clean Air Act standards to minimize nitrogen loadings from atmospheric deposition; implementation of the Peconic Nitrogen Total Maximum Daily Load (TMDL); implementation of the NYSDEC Municipal Separate Storm Sewer Systems (MS4s) stormwater permit; agricultural stewardship activities; open space preservation; and shellfish restoration initiatives.</p> <p><i>Responsible entity: Private land and property owners (including homeowners, golf courses, agricultural operators), SCDHS, Towns, STPs, NYSDEC, USEPA</i> <i>Timeframe: Ongoing</i></p>	<p>PEP is implementing the Nitrogen TMDL and funding agricultural stewardship activities in nitrogen impaired watersheds, the Agricultural Stewardship Plan was finalized in March 2016 (<a href="http://www.peconicestuary.org/reports/d35111f3f9f18e627afd029d09f82d3399c3423f.pdf">http://www.peconicestuary.org/reports/d35111f3f9f18e627afd029d09f82d3399c3423f.pdf</a>). All Peconic Towns and Villages are now permitted under the MS4 stormwater permit. The Towns of Brookhaven, East Hampton, Riverhead, Shelter Island, Southampton, Southold and Villages of Greenport, North Haven, Sag Harbor have formed an intermunicipal agreement dedicated to restoring and improving water quality in the Peconic Estuary and implementing goals listed in the PEP Comprehensive Conservation Management Plan (CCMP). The Committee aims to protect, restore and enhance the Peconic Estuary to ensure a healthy and diverse marine ecosystem while balancing and maintaining recreational and commercial uses. As a unified group of stakeholders, the Committee believes that intermunicipal cooperation is an efficient means to comply with EPA's Clean Water Act and New York State's Phase II stormwater regulations for small municipal stormwater sewer systems (MS4s). The Committee workplan outlines collaborative efforts toward improved water quality including sharing information and technical resources, coordinating regulatory and enforcement activities, jointly conducting outreach and education initiatives, and cooperating on planning and infrastructure programs. Suffolk County is implementing its fertilizer reduction law/campaign and PEP's nutrient mgmt challenge for golf courses. The Riverhead Sewage Treatment Plant has completed the final stages of redirecting effluent to the Indian Island Golf Course irrigation system which will reduce nitrogen loads to the Peconic Estuary. The PEP will be fully assessing TMDL implementation and analyzing groundwater nitrogen loads to guide the Long Island Nitrogen Action Plan (LINAP) and Suffolk County and Peconic Estuary Program nitrogen management actions.</p>
<p><b>Action Step 6.1.2:</b> Implement regulatory and voluntary measures and initiatives to reduce toxic pollution. These may include: pesticide and herbicide management; agricultural stewardship activities; and implementation of the NYSDEC Municipal Separate Storm Sewer Systems (MS4s) and Industrial Multi-Sector stormwater permits.</p> <p><i>Responsible entity: Private land and property owners (including homeowners, golf courses, agricultural operators), Towns, NYSDEC</i> <i>Timeframe: Ongoing</i></p>	When available, current herbicide toxicity research results may require additional pesticide/herbicide mgmt efforts. The Peconic Estuary Program Homeowner Rewards Program incentivizes homeowners to install native plantings which less pesticide use.
<p><b>Management Action 6.2:</b> Reduce and intercept stormwater and urban runoff.</p>	
<p><b>Action Step 6.2.1:</b> Reduce runoff volumes by decreasing impervious surfaces, increasing infiltration areas, and installing detention and infiltration technologies. <i>Responsible entity: Towns, private property owners, NYSDEC, NYSDOT, SCDPW</i> <i>Timeframe: Ongoing</i></p>	Ongoing.

<p><b>Action Step 6.2.2:</b>          Incorporate the use of Low Impact Development (LID) practices, including but not limited to conservation landscaping, rain gardens, permeable pavements, and green roofs, into new and existing development.  <i>Responsible entity: SC Planning, Towns, private property owners, PEP</i>  <i>Timeframe: Ongoing</i></p>	<p>Ongoing. PEP is currently funding FY11 Peconic Estuary Homeowner Rewards Program, providing incentives to homeowners to reduce impervious surfaces by installing rain gardens, native plantings and rain barrels.</p>
<p><b>Management Action 6.3:</b>          Protect and restore vegetated buffers, wetland, and open space.  <i>Responsible entity: Towns, private property owners, NYSDEC, Suffolk County, TNC</i>  <i>Timeframe: Ongoing</i></p>	<p>Ongoing. PEP's 2009 Habitat Restoration Plan is being implemented. PEP funded conceptual habitat restoration design plans for 9 listed sites. Five (5) of these designs are complete.</p>
<p><b>Management Action 6.4:</b>          Explore and investigate, on a case-by-case, as needed basis, the use of inlet maintenance dredging to increase flushing capacity to improve water quality conditions for eelgrass. <i>*Please note that dredging activities may also be harmful to eelgrass beds. See Management Action 1.2.</i>  <i>Responsible entity: New PEP Eelgrass Workgroup</i>  <i>Timeframe: Short Term (5 years)</i></p>	<p>PEP held a separate Dredging Meeting in 2010. A summary is available at <a href="http://www.peconicestuary.org/reports/03392be566e6b6b8e3823ceeb9a0b89c6b08f8a2.pdf">http://www.peconicestuary.org/reports/03392be566e6b6b8e3823ceeb9a0b89c6b08f8a2.pdf</a></p>
<p><b>Objective 7: Minimize and mitigate the negative effects from the construction of new and previously placed docks and other shoreline stabilization structures including but not limited to bulkheads, seawalls, groins, and jetties in and around eelgrass beds or in areas where restoration or re-colonization is likely. [Sea level rise is addressed under this objective].</b></p>	<p style="text-align: center;">June '15-June '16 Progress</p>
<p><b>Management Action 7.1:</b>          Minimize the effect of docks and other SSS on sensitive eelgrass beds through existing permitting processes or other regulatory measures, including but not limited to a restoration mitigation strategy, promoting dock construction (or reconstruction) that allows for maximum light penetration, a no-net increase policy, and, if possible a net decrease policy.  <i>Responsible entity: NYSDEC, Towns, TNC, public and private waterfront businesses/owners</i>  <i>Timeframe: Ongoing</i></p>	<p>Ongoing.</p>
<p><b>Objective 8: Prevent, if possible, and minimize shading and other negative impacts associated with the onset of future harmful algal blooms and Brown and Red Tide episodes.</b></p>	<p style="text-align: center;">June '15-June '16 Progress</p>
<p><b>Management Action 8.1:</b>          Support existing and expand Brown Tide monitoring, research, and management initiatives to help identify environmental factors responsible for blooms. Implement initiatives to prevent and alleviate the effects of Brown tide blooms, including but not limited to nutrient management plans (*See Management Objective 6).  <i>Responsible entity: NY Sea Grant, SUNY, SCDHS, PEP</i>  <i>Timeframe: Ongoing</i></p>	<p>Ongoing. NY State Seagrass Coordinator, along with Suffolk County and Peconic Estuary Program are participating in the Long Island Nitrogen Action Plan (LINAP) planning process and activities in order to support improvements in water quality, which is a primary concern for seagrass health.</p>
<p><b>Management Action 8.2:</b>          Support existing and expand phytoplankton and other harmful algal species monitoring, research, and management initiatives to help identify environmental factors responsible for blooms. Implement initiatives to prevent and alleviate the effects of phytoplankton and other harmful algal species blooms, including but not limited to nutrient management plans (*See Management Objective 6).  <i>Responsible entity: NY Sea Grant, SUNY, SCDHS, PEP</i>  <i>Timeframe: Ongoing</i></p>	<p>Ongoing. The Harmful Algal Bloom Action Plan/ Strategy was initiated in 2016. New York Sea grant and Suffolk County Department of Health Services will convene an Experts Workgroup of 5-6 six top researchers in the science of HABs, their causes, development and ecological impacts. The action plan will provide County officials with a coordinated plan for research, monitoring and pre-emptive management actions that can be used to minimize the likely future occurrence, duration and/or severity of HABs in County waters.</p>