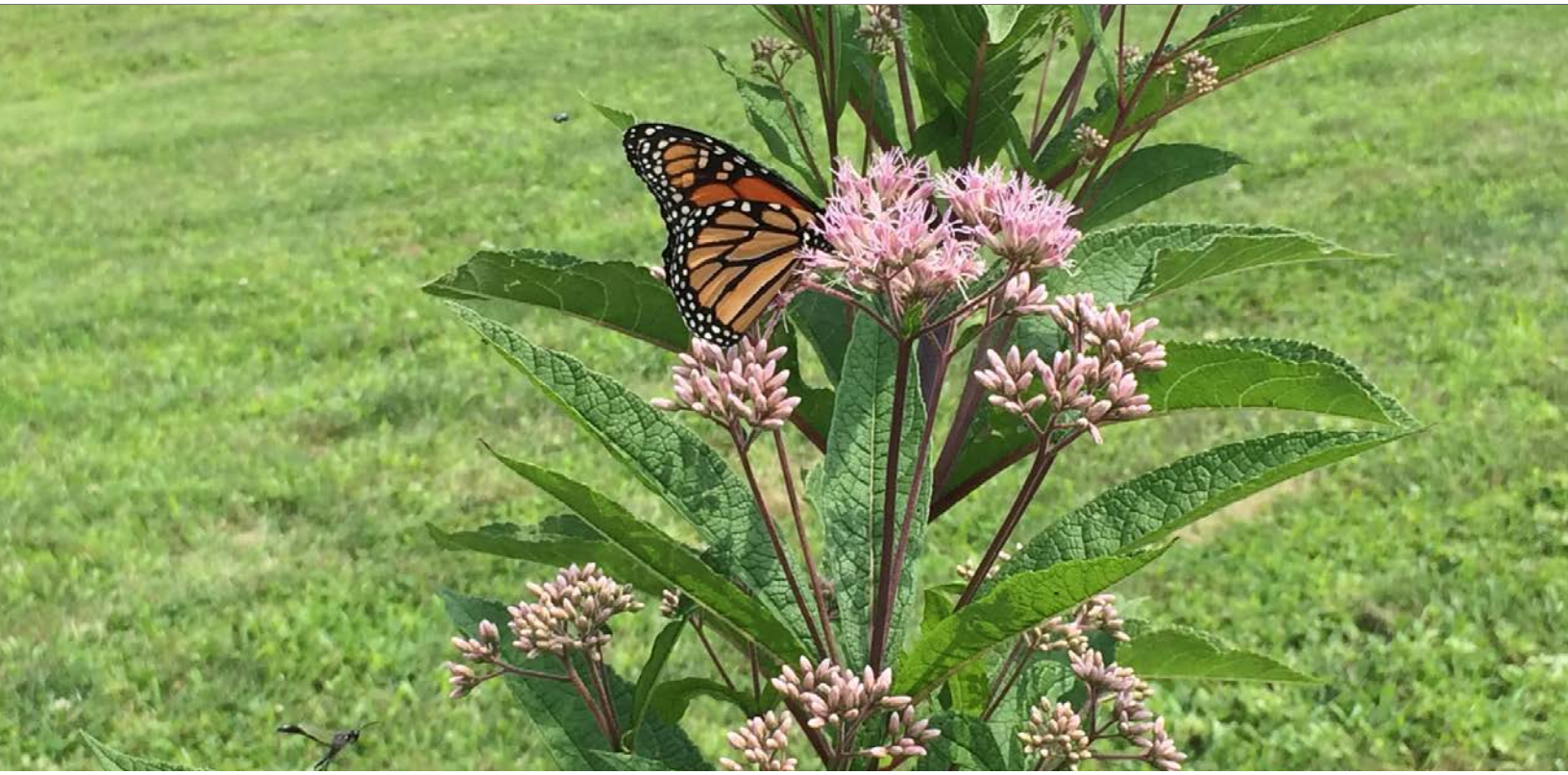
Peconic Estuary PROGRAM

Spring Newsletter 2019



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Peconic Estuary Program Updates

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Create A Native Plant Garden This Spring

Planting a native plant or rain garden or installing rain barrels can mitigate stormwater runoff into our bays, helping to reduce nutrient pollution, improve water quality, and restore our natural resources. Stormwater filtered through native plant gardens becomes dramatically cleaner. Rain barrels offer an opportunity to catch rainwater from roof runoff for reuse in gardens rather than letting the water flow over paved surfaces carrying pollutants into storm drains, nearby bodies of water and groundwater. Read the back cover for information about our Homeowner Rewards Program for an opportunity to be reimbursed for these additions to your property!

Horseshoe Crab Monitoring
My Experience as a Peconic Estuary Program Intern

By Kaitlin Morris

It was after two in the morning and so foggy that I could hardly tell the moon was full through the warm, hazy air. It was a horseshoe crab monitoring night and my fellow intern, Julie, and I were walking along the shoreline at Squires Pond, Hampton Bays in search of mating pairs of these amazing marine animals. I was excited to experience marine science and conservation first hand as an intern for Peconic Estuary Program, and walking on the beach in the middle of the night made it all the more fun.

I realized how thrilling it was to be in that place: recording data, measuring and tagging horseshoe crabs, and releasing them back into the Peconic Estuary—all while leading citizen science volunteers who stayed up extra late to be part of this project. Here I was, making a real difference in a hands-on way, working with wildlife, and educating the public. How could it get any better?

Horseshoe crabs are a fascinating and important marine species. Every May, Atlantic Horseshoe Crabs (Limulus Polyphemus) come ashore during the new and full moon high tides to mate and lay their eggs in the sand along the coasts, including the shores of the Peconic Estuary. Their eggs are not only important for hatching baby horseshoe crabs, but also for feeding migrating shorebirds, such as the Piping Plover. As the shorebirds migrate, they stop down in our region and feed on energy-rich horseshoe crab eggs they find buried along the shoreline. Without horseshoe crabs, these migrating birds would be very hungry!

Concern about the horseshoe crabs has risen in recent years because their coastal habitat—where they lay their eggs—is decreasing. As people build homes and businesses along the coasts, there's a lot less room for the horseshoe crabs to safely lay their eggs. They are also harvested by fishermen, who use them as bait for other popular species. With so many threats facing the horseshoe crabs, and therefore the shorebirds that rely on them for food, The Atlantic States Marine Fisheries Commission (ASMFC) developed a Fisheries Management Plan requiring certain states to monitor the horseshoe crab population.

The New York State Horseshoe Crab Monitoring Network was created as a joint effort between Cornell Cooperative Extension's Marine Program and the New York State Department of Environmental Conservation to help monitor and conserve the horseshoe crab species in New York State. The goal of this network is to encourage citizens and local environmental organizations to get involved with annual horseshoe crab monitoring surveys to collect scientific data while learning about this amazing animal. With help from all of these monitoring efforts across New York, scientists will be able to assess the status of the horseshoe crab population and plan for future conservation.

The Peconic Estuary Program is part of New York State's Horseshoe Crab Monitoring Network! PEP's staff, interns, and volunteers take part in patrolling our site at Squires Pond in Hampton Bays to count, measure, and tag spawning adult horseshoe crabs during the evening high tide each new and full moon cycle. Volunteers are always welcome and very appreciated.

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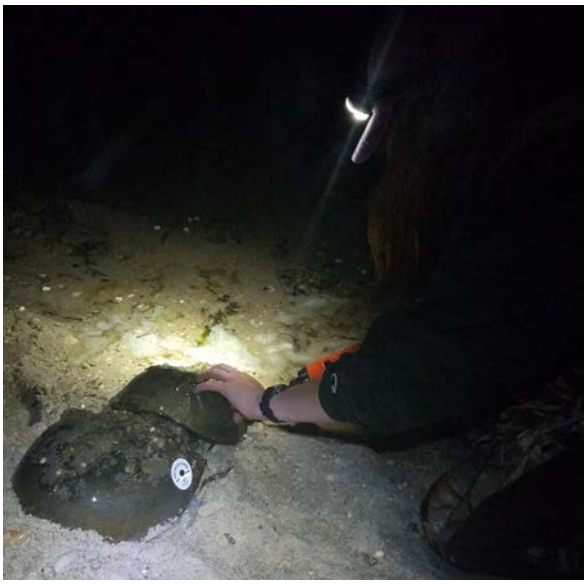


My fellow intern, Julie, tagging a mating pair

I spent several nights each month wading through the Peconic Estuary at high tide times between ten o'clock at night and three o'clock in the morning. It's way more fun than it sounds, I promise! Each monitoring night, we met about 15 minutes before the time of high tide to record environmental data. This includes measuring the temperature of the air and water, the speed and direction of the wind, weather conditions (cloudy, partly cloudy, or clear, for example), and offshore visibility. The offshore visibility was the most fun part of taking the environmental measurements—it involved throwing a round dog toy containing a rock into the water and then reeling it back in using a tool with a tape measure on it. This helped us estimate how far into the estuary we could see clearly enough to spot the dog toy, giving an estimate of offshore visibility. Sometimes science includes a lot of improvising and creativity to use whatever tools are available (even a dog toy) to accomplish a goal..

At the exact time of high tide, we began walking along a transect (a straight line of a known distance) along the beach in search of horseshoe crabs to count, measure, and tag. It's so exciting to spot a horseshoe crab on a monitoring night, and something everyone on Long Island should experience. The females are significantly larger than the males, and there are much fewer of them. The males tend to follow and surround the females until they attach to mate, and they are surprisingly quick swimmers when they're on a mission! Once a male is nearby, a female will begin to bury herself in the sand, sometimes in the "surf zone," or where the waves are gently crashing on the beach and the sand is soft. The male will then attach himself to the female using claw-like appendages to grip her shell. The female lays her eggs in the sand, and the male releases sperm to fertilize them. Once the female has buried herself in the sand, we don't disturb them, though we could still count them as a mating pair.

Instead, we measured and tagged pairs that were still swimming and attached, or swimming freely. Once we spotted a horseshoe crab, we would hold it gently with our hands or even with our boots. We used a large ruler called calipers to measure its width, then drilled a tiny hole in its shell with a power drill (don't worry, it doesn't harm them!). We carefully placed a small, round tag into this hole and recorded the tag's I.D. number on the data sheet. If we see this particular horseshoe crab again we will see that it has already been counted and tagged and we can report where it was found. This helps the monitoring network track the population size and where the horseshoe crabs are spawning each year.

As one of PEP's citizen science programs, volunteers were welcome to join us and participate, which was a lot of fun for all of us! Volunteers were offered the opportunity to have a more hands-on experience by recording data, or measuring and tagging the animals, making this program an exciting opportunity for the public to get involved in marine conservation and monitoring wildlife within their community. Some nights we saw very few, while other nights we would see about 20 at our monitoring site! Other sites have reported seeing hundreds, but you never know how many will be there on a given night until you check it out! To learn more about the program and find a location and time that works for you, go to the New York Horseshoe Crab Monitoring Network's website: http://nyhorseshoecrab.org.

Mating pair released after being tagged

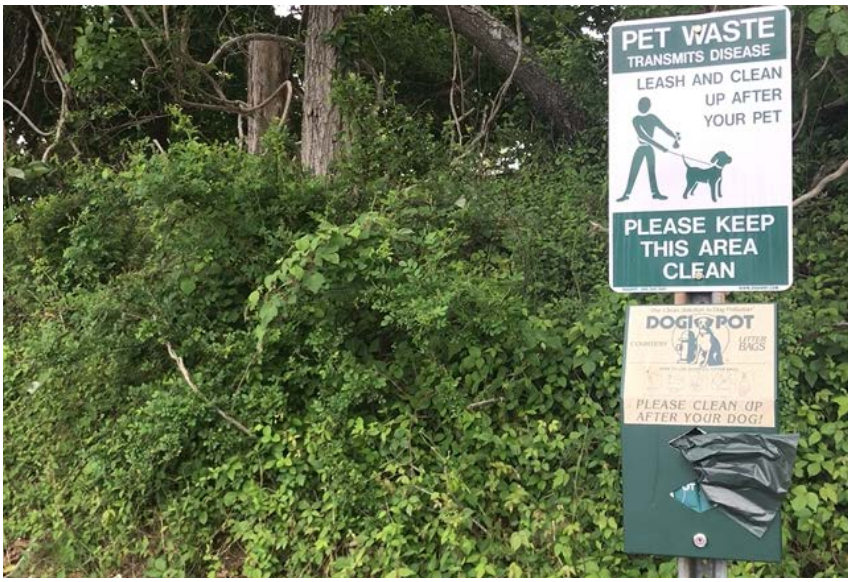
7 WAYS TO SHOW LOVE FOR ESTUARIES

By Jenna Schwerzmann

1. Fertilize responsibly, if at all. One of the biggest issues that the Peconic Estuary faces is nutrient pollution. Fertilizer uses nitrogen and phosphorus to help plants grow on land, but it also feeds algae if it runs off the land into water. This can lead to harmful algal blooms, which shade underwater plants, can be toxic to people and animals, and when they die off can use up oxygen and suffocate marine life. We must be careful about our fertilizer use, and there are ways we can do this!

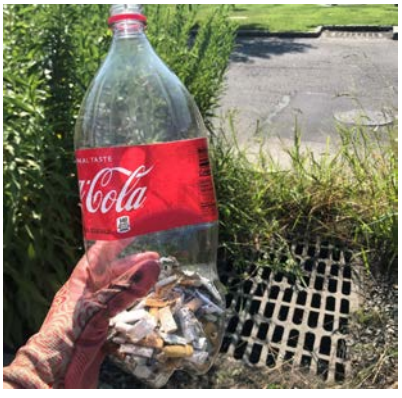
If a rain storm is approaching, wait to apply until after the rain has stopped to prevent fertilizer from running off your lawn. Use slow-release and organic fertilizers.

However, it is best for the environment not to apply fertilizers at all! Studies show the main reason people fertilize their lawns is not because the grass needs it, but because they think they have to keep up with the neighbors. It's also illegal to apply fertilizer in Suffolk County between November 1st and April 1st. Leave grass clippings on the lawn to decompose, returning nutrients (like nitrogen) to the soil. Reduce your lawn size or other impermeable surfaces by installing a garden. Plant native plants, which have adapted to our climate and don't require pesticides or fertilizers.



2. Clean up after your dog. Similar to the effects of fertilizer, pet waste can contribute excess nutrients to surrounding water bodies. Pet waste can also contain pathogens that could cause diseases in humans or other dogs. A common response to this problem might be, "What about the wild animals that live around the estuary?" Unlike wild animals, pets are not a part of our natural environment and pets create extra waste that would not have occurred naturally. Humans are responsible for making sure this extra waste does not add nutrients to our water bodies. We must clean up after our pets and help keep waters clean. Plus, it's the law!

3. Pick up litter from the streets, trails, and beach. Rainwater and snow melt carry more than just nutrients and pollutants. They also carry litter from the streets to surrounding waters through storm drains. Did you know that over 90% of storm drains on the East End discharge directly to the local bays without being treated? So, even if you're not close to water, you can prevent marine debris by picking up litter from the ground (and refrain from creating it yourself, of course!). If you find any fishing line along the way, you can bring it to our fishing line recycling receptacles on the East End. Click here to view where these receptacles are located!



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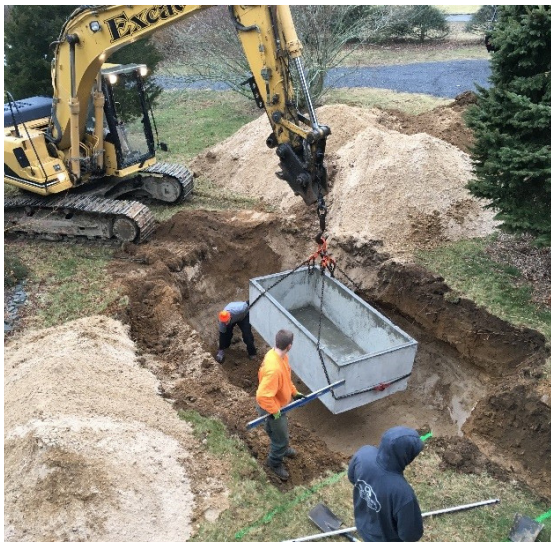
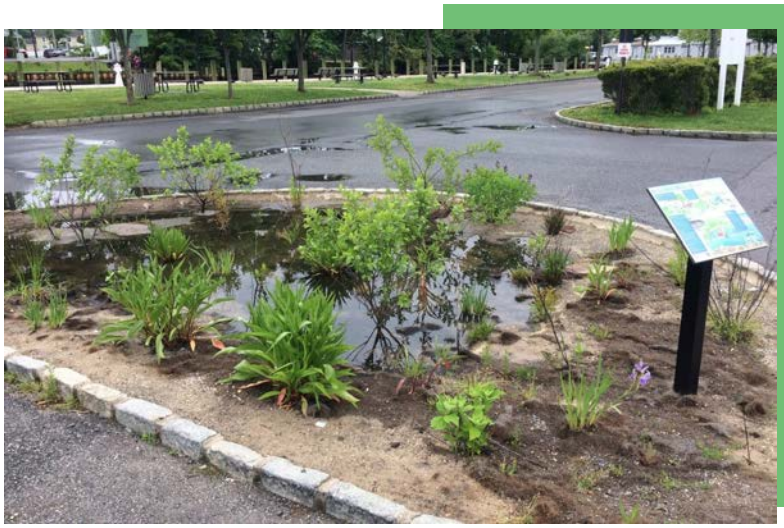
4. Upgrade your septic system or cesspool. Outdated septic systems and cesspools are a major contributor of nutrient pollution. Just like lawn fertilizer and pet waste, human sewage is creating problems for water quality in the Peconic Estuary. Most residents in Suffolk County do not have access to sewers, many use on-site septic systems that are outdated and do little to reduce the nitrogen in human waste before the waste leaves the septic system and enters the ground. Nitrogen in human waste can get into our groundwater, which travels to our drinking water sources and surrounding estuary surface waters. Wastewater is the largest land-based source of nitrogen (50%) to the Peconic Estuary. It is very important that local residents take action and upgrade septic systems and cesspools to innovative/advanced onsite wastewater treatment systems. Suffolk County is offering grants and loans through their Reclaim Our Water Initiative and East Hampton, Southampton and Shelter Island are providing grants too.





5. Plant native plants or install a rain garden or rain barrel. Native plants are adapted to our climate, so they are relatively low-maintenance and do not require pesticides or fertilizers. A rain garden catches excess stormwater and filters runoff through the soils. Similarly, rain barrels help collect water that would normally run from a gutter onto driveways and pavement, carrying pollutants to our estuary. Instead, that water can be collected and used to water gardens or wash a car over grass. Learn more about how to create a Peconic-friendly yard on our website, peconicestuary.org.

6. Use natural cleaning products and return hazardous materials through a S.T.O.P. program. Although our wastewater treatment plants can remove many chemical compounds from water, they aren't able to remove everything. It's best for our environment and our health to use non-toxic, natural cleaning and personal products. However, hazardous materials can't always be avoided – you can return your car batteries, pharmaceuticals, lawn, pool and household chemicals to a S.T.O.P. collection site near you. Never flush old medications; if your recycling center does not collect them, they can be accepted at police stations.

7. Show that you care when enjoying the outdoors: Boaters should use pump-out services, avoid eelgrass beds, and abide by no-wake zones. All of these practices help to reduce disturbance to natural habitats, which are crucial to aquatic life. Be a Peconic-friendly boater! Stay on marked trails when exploring. This will prevent disturbing native flora. Make sure to also carry out whatever you may carry in. Last but not least, get involved. The Peconic Estuary Program has many opportunities to volunteer and be active participants in your community, including our Citizens' Advisory Committee and various citizen science projects like monitoring for horseshoe crabs and diamondback terrapin turtles. Read more on our website, peconicestuary.org.

Peconic Estuary Program Updates

PEP's Revision of the Comprehensive Conservation and Management Plan (CCMP)

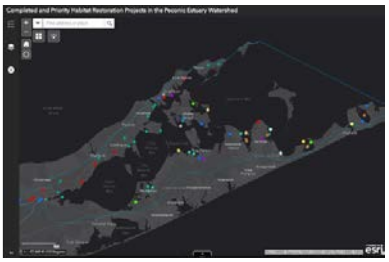
PEP held monthly CCMP Workshop Meetings, November - February, to gain specific feedback on the Draft CCMP Outline and Chapters. Our Comprehensive Conservation Management Plan lays out the blueprint for what we should focus on in the Estuary. The draft CCMP document was submitted for review by EPA, NYSDEC, Suffolk County and Local Governments in spring 2019. CCMP 60-day public review period is planned for July-August 2019. Final CCMP to be completed: December 31st, 2019.

Peconic Estuary Solute Transport Model

Contracting with United States Geological Survey, this Solute Transport Model will be a tool to estimate time-varying nitrogen loading rates to the Peconic Estuary resulting from wastewater and fertilizer inputs to the groundwater.The Model will be used to simulate the response of loading rates to the Estuary due to possible wastewater and fertilizer-management actions. Anticipated completion in 2020.
https://www.peconicestuary.org/protect-the-peconic/priority-issues-in-the-peconic-estuary/peconic-estuary-solute-transport-model/

2017 Habitat Restoration Plan & Map Finalized

Interactive GIS Map of Habitat Restoration Projects complements the 2017 Peconic Estuary Program Habitat Restoration Plan and will serve as a tool to track habitat restoration progress: completed, ongoing, and priority habitat restoration projects in the Peconic Estuary watershed. Next Natural Resources Subcommittee meeting will review status of projects and solicit project nominations. You can view the map here: https://www.peconicestuary.org/news-and-blogs/maps-gis/habitat-restoration/



Living Shoreline Pilot Project- Widows Hole Preserve, Greenport

PEP is contracting with Cornell Cooperative Extension and Peconic Land Trust to create a living shoreline that provides habitat for wildlife and protection from storms and sea level rise. Construction will begin this spring 2019.

Hardened Shoreline GIS Mapping Project

With the help of two interns, PEP is undertaking a GIS mapping project to quantify the amount of hardened shoreline in the Estuary. This supports Action 3, under Objective 9 in the Habitat Restoration Plan. The last survey was in 2003. North Fork and Shelter Island hardened shoreline mapping is complete. South Fork will be complete within the season. A report will be available in summer 2019.

CLPS Update and Climate Ready Assessment Services for PEP and Shinnecock Indian Nation

Contracting with Anchor QEA, the project is expected to be completed in August 2019. Objectives for this project are to update the Critical Lands Protection Strategy for the Peconic Estuary watershed to identify lands that should be prioritized for protection, and assess the climate change risks to the Peconic Estuary watershed and the Shinnecock Indian Nation to develop strategies that better prepare environmental restoration and protection programs for impacts of climate change.

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Expansion and Monitoring of the Town of Southold Living Shoreline Demonstration Project

Peconic Estuary Program is contracting with Cornell Cooperative Extension. Project is underway. Expansion to an existing Town of Southold Living Shoreline Demonstration Project contract with the Town of Southold Trustees and the Suffolk County DEDP. Goal is to establish a larger geography of the project and monitoring services to run in tandem with the existing project to quantify nitrogen and pathogen uptake results and assess the effectiveness of the living shoreline to mitigate nitrogen pollution in the Peconic Estuary with Spartina alterniflora and ribbed mussels.

Upper Mills Dam Fish Passage Project

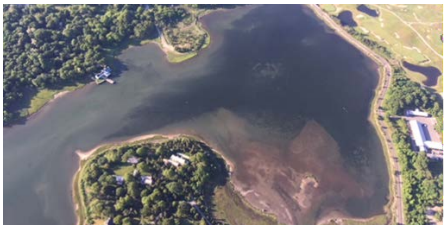
Contracting with L.K. McLean Associates for engineering design/permitting services. The fish passage engineering design is being developed.

Woodhull Dam Fish Passage Project

Suffolk County contracted with L.K. McLean Associates for engineering design/permitting services.
NYSDEC WQIP Funding awarded for fish passage construction and construction is anticipated to occur in the fall 2019.

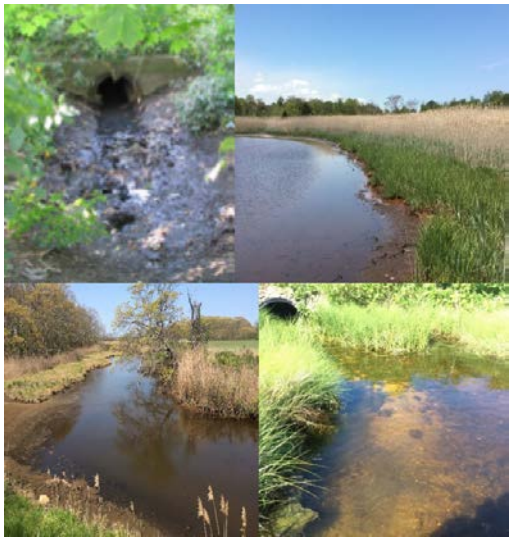
Seagrass Bio-optical Model

PEP is contracting with The Research Foundation of SUNY Stony Brook. The project will provide site specific information to inform eelgrass management and restoration programs. This project will lead to a better understanding of specific light and temperature requirements for eelgrass in the Peconic Estuary. This is the critical next step towards understanding the threats to the eelgrass community and where restoration projects have the best probability of success.



Conceptual Habitat Restoration Design Planning in the Peconic Estuary

Peconic Estuary is contracting with Land Use Ecological Services, LLC.
The project is expected to be complete in July 2019.
Conceptual habitat restoration designs will be developed for the following identified priority sites:
a. Southold: Narrow River Road Wetland Restoration
b. Southampton: Iron Point Wetland Restoration
c. East Hampton: Lake Montauk Alewife Access and Habitat Enhancement
d. Riverhead: Meeting House Creek Main Road Wetland Construction/Restoration
-2016 Suffolk County Capital funds have been secured for implementation of the Lake Montauk project.
-PEP secured 2018 EPA funds for implementation of the Meeting House Creek project.



Homeowner Rewards Program

Spring 2019

Mitigating stormwater runoff into our bays can help improve water quality, reduce nutrient pollution, and help restore our natural resources.

Rain Gardens **Native Plantings** **Rain Barrels**



The Peconic Estuary Program (PEP) is providing a unique opportunity for those that live within the Peconic Estuary watershed. The PEP will provide financial rewards for homeowners who remove turf and pavements, and add green alternatives to their properties that benefit the environment. One project is allowed per homeowner/property address.

Homeowners can earn up to $500 to offset the expense of installing green infrastructure on their properties including rain barrels, rain gardens and native plant gardens.

Stormwater filtered through the soil, sand and gravel within these gardens is dramatically cleaner when it enters our groundwater, nearby bodies of water, and storm drains. Rain barrels collect rainwater from roof runoff that can be reused in gardens, reducing the amount of water flowing over paved surfaces and into storm drains and nearby bodies of water.

This is a great opportunity to make a positive impact for the Peconic Estuary and all its amazing bays. While improving your property, you are reducing pollution from entering local waters. Funds are limited and will be granted on a first come first served basis, so don't miss out!

For details and to apply, visit PeconicEstuary.org. You can apply online or print the application and send to Rewards@peconicestuary.org OR Peconic Estuary Program Department of Health Services Office of Ecology, 360 Yaphank Avenue, Suite 2B Yaphank NY, 11980

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