Peconic Estuary PROGRAM

Fall Newsletter 2018

What's Inside?

First Ever Estuary Day

Turn to page 2 to learn about this collaborative celebration of Long Island's estuaries.

Living VS. Hardened Shorelines

What's the difference, and why do our shorelines matter? Starts on page 3.

Peconic-Friendly Gardens

Check out the seasonal progression of our two local demonstration gardens starting on page 5.

November 1st - April 1st

Local Law 41-2007 prohibits lawn fertilizer application between November 1st through April 1st in Suffolk County. During this time period, lawn grass doesn't grow rendering fertilizers useless. The purpose of this law is to reduce the amount of nitrogen released into our groundwater and surface water to reduce harmful algae blooms and hypoxic, or low oxygen events in our waterways. Retailers are required to post signs near fertilizer displays notifying customers of the date restrictions. Violators, whether it be home-owners, landscapers or other parties risk fines of $1,000. As a community we can work together to help keep our estuaries healthy!

First Inaugural Estuary Day was a Success!

By Sarah Schaefer

The Peconic Estuary Program is just one of Long Island's estuary protection programs. We are fortunate to have programs like ours working towards a unified goal of protecting and restoring estuary health all around us. The Peconic Estuary watershed is bordered to the north by the Long Island Sound Study (LISS) and to the south by the South Shore Estuary Reserve (SSER). Check out the PEP, LISS and SSER Boundary Map to see what watershed you live in!

Photo Credit: NYSDEC

Peconic Estuary Program collaborated with our bordering estuary programs to celebrate the beauty and natural resources Long Island's estuaries have to offer at the first inaugural Estuary Day on Saturday, September 15th 2018. The event was hosted by South Shore Estuary Reserve in their watershed at the Seatuck Environmental Association in Islip, NY. The event kicked off the Country-wide annual celebration of National Estuaries Week (September 15th to 22nd) and highlighted how the estuary programs work together within their own estuary boundaries to address nitrogen pollution – the theme of our very first Estuary Day. Our goal was to educate people about what they can do to help keep our estuaries healthy and learn how to prevent nitrogen pollution on their property. Throughout the event, around 75 people took part in a variety of family-friendly activities which included nature and wildlife photography hikes, kid's scavenger hunt nature hikes, seining, shell painting, fish press painting, and listening to presentations on nitrogen pollution in our estuaries, invasive species, organic lawn care, rain gardens, and the Suffolk County Septic Improvement Program. Participants were able to learn and engage with our local environmental partners who joined us: Seatuck Environmental Association, Citizens Campaign for the Environment, Peconic Baykeeper, NYSDEC, NY Sea Grant, Cornell Cooperative Extension, Suffolk County Water Authority, Long Island Invasive Species Management Area, The Nature Conservancy, The Fire Island National Seashore, The Riverhead Foundation for Marine Research and Preservation, and Suffolk County. The event was an outstanding showcase of the variety of programs that work together every day to protect the environment on Long Island.

The Long Island Sound Study will host next year's Estuary Day within the Long Island Sound watershed in downtown Port Jefferson. The event will highlight the strength of our partner estuary programs working together and will provide another year of family friendly fun! We look forward to seeing you there!

Living Shorelines VS. Hardened Shorelines

By Elizabeth Hornstein

In the face of rising sea levels and more intense storms as a result of global climate change, many waterfront property owners have been putting up bulkheads, rip-rap, and other hard structures to protect their property. Unfortunately, what many fail to realize is that these hard structures can have negative ecological consequences and can often exacerbate the problem.

Because these hardened shoreline structures reflect wave energy, they alter the physical shoreline environment and natural sand movement patterns. Erosion or deposition of sediments up or downstream of the structure can occur and ultimately lead to destabilization of the shoreline. This may in turn encourage adjacent landowners to install hardened structures along their property. This "domino effect" of replacing natural shoreline with human-made structures can result in the loss of critical coastal habitats, including wetlands, beaches, and eelgrass beds. The loss of these habitats negatively impacts fishing and tourism industries as well as shellfish, fish, and birds that use these areas for spawning, feeding, or mating. These structures can also leach toxins, such as copper, chromium, and arsenic into the surrounding water, further impacting nearshore living resources. Additionally, they prevent the landward migration of coastal habitats which is a necessary response to the rising seas...

An alternative to hardened shoreline structures is living shorelines. Living shorelines use plants and other natural features such as sand, rocks, and bagged shells to stabilize estuarine coasts and bays and reduce wave energy. Living shorelines are designed to mimic the natural environment. They provide protection to waterfront properties, while at the same time provide numerous ecological benefits!

Benefits of Living Shorelines

-Maintains natural shoreline dynamics and sand movement.
-Creates habitat for fish, birds, and other wildlife. This in turn supports marine fishing and tourism industries.
-Provides attractive, natural appearance, and public access opportunities.
-Maintains or restores the connection between the water and upland habitat, which will allow for the natural landward migration of coastal habitats with rising seas.
-Natural or restored wetlands improve water quality through filtering nutrients and other pollutants.
-Often less costly than traditional shoreline stabilization methods.

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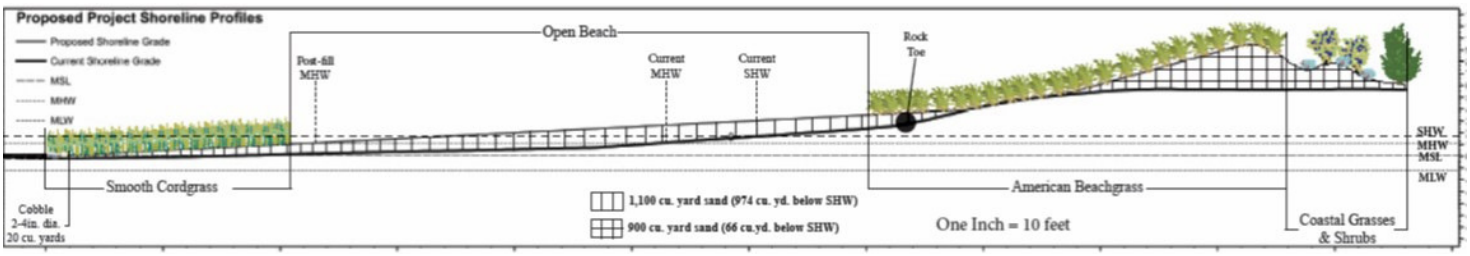
The Peconic Estuary Program is currently funding a demonstration living shoreline project in Greenport, NY. Partnering with Peconic Land Trust and Cornell Cooperative Extension Marine Program, we hope to show the public how a living shoreline works and their many advantages. In preparation for this project, we held a volunteer event this past summer to prepare the salt marsh plants that will be used for this project. The plants will be planted in the spring of 2019, so stay tuned for more volunteer opportunities. Once the living shoreline is constructed, we will be monitoring the living shoreline to see how well it is working.

Wondering how to go about designing and constructing your own living shoreline? The New York State Department of Environmental Conservation has a Living Shoreline Techniques and Guidance Document that provides detailed information and useful tips. The basic steps to create a living shoreline are outlined below.

Living Shoreline Project Steps

-Evaluate and understand your site conditions, including the tidal range, wave energy, nearby plant and animal life, and water quality.
-Using the information collected in Step 1, determine what types of natural elements should be included in your living shoreline project and create a living shoreline design.
-Apply for a permit from the NYS Department of Environmental Conservation and other relevant agencies.
-Once you have received all the necessary permits, gather materials for your project and construct it.
-Conduct post-project maintenance and monitoring to ensure the success of the project



Peconic-Friendly Gardens Over the Seasons

By Jenna Schwerzmann

The Peconic Estuary Program's demonstration gardens have gone through many different stages throughout the year. We've had the pleasure of seeing a variety of plants blossom and bloom at different times, creating a year-long symphony of changing wildlife activity. This is part of the beauty of a native plant garden – when you choose to grow plants that are adapted to our local environment, they thrive in the natural soil and moisture levels. This means we get to see our plants thrive with minimal effort since they don't need the help of fertilizers and require less water than exotic plants. They also play an essential role in the lives of local pollinators that use them for food and habitat. Native plants also provide food for birds all year round.

PEP has two demonstration gardens: one at the Big Duck in Flanders and one at the Peconic Riverfront Park in downtown Riverhead. If you happened to see either of our gardens in the spring, it probably looked a bit bare. In early May, we supplemented our existing perennials with some additional natives that we purchased with advice from Warren's Nursery in Water Mill, NY. The before and after pictures will show a dramatic transformation from May to August at our native plant garden at the Big Duck! We were shocked to find that our Joe Pye Weed plants had grown taller than us in that time, and all kinds of pollinators were buzzing around them. Butterflies including monarchs, silver-spotted skippers, and eastern tiger swallowtails seemed to be enjoying our various milkweed plants as well. Did you know that milkweeds will take three years to fully mature? They may look small at first and won't have impressive flowers until a few years later. However, when they do flower, they will bloom for most of the summer and seed pods will open in the fall. Swamp milkweed (Asclepias incarnata) is especially resistant to deer. We also saw edible berries on our beach plum plants which ripen to a dark purple in September.

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We made another observation during our last visit to the rain garden: a collection of marine debris. While this is normally an unfortunate sighting, it is better to see the trash collected in our rain garden than washed into the Peconic River that is located only yards away. Most marine debris sources are land-based, which is why it is important to avoid littering no matter how far away the ocean may be. This includes the littering of cigarette butts, the most common form of marine debris. When they are tossed out of car windows, they can get washed into storm drains and end up in our waterways and on our beaches. Contrary to popular belief, the runoff that goes into storm drains is not filtered; 90% of the drains in Suffolk County empty directly into surrounding bodies of water. If you are a smoker or know one, make sure not to let cigarette butts go flying out the car window (or anything else, for that matter). Land-based litter will almost always find its way to a water body nearby.

Meanwhile, different species were thriving at our rain garden. Because a rain garden is designed to collect stormwater runoff, which will filter through the soil on its way back into our groundwater supply, we must choose plants that are tolerant of wet conditions. We had blue flag irises show up in June, and our native hibiscus bloomed proudly at this location in August. Both flowers can attract hummingbirds. The tallest plants were the big bluestem grass, followed by our seaside goldenrods. We saw a Halloween Pennant dragonfly and several monarch caterpillars. A milkweed bug was spotted hanging out on a seed pod this September. Goldenrods and asters will still be adding color to our gardens this season, also providing a crucial fall nectar source for bees and butterflies. Asters are especially important to monarchs for this reason. Another bonus to having goldenrods: they host beneficial insects that will prey on pests.

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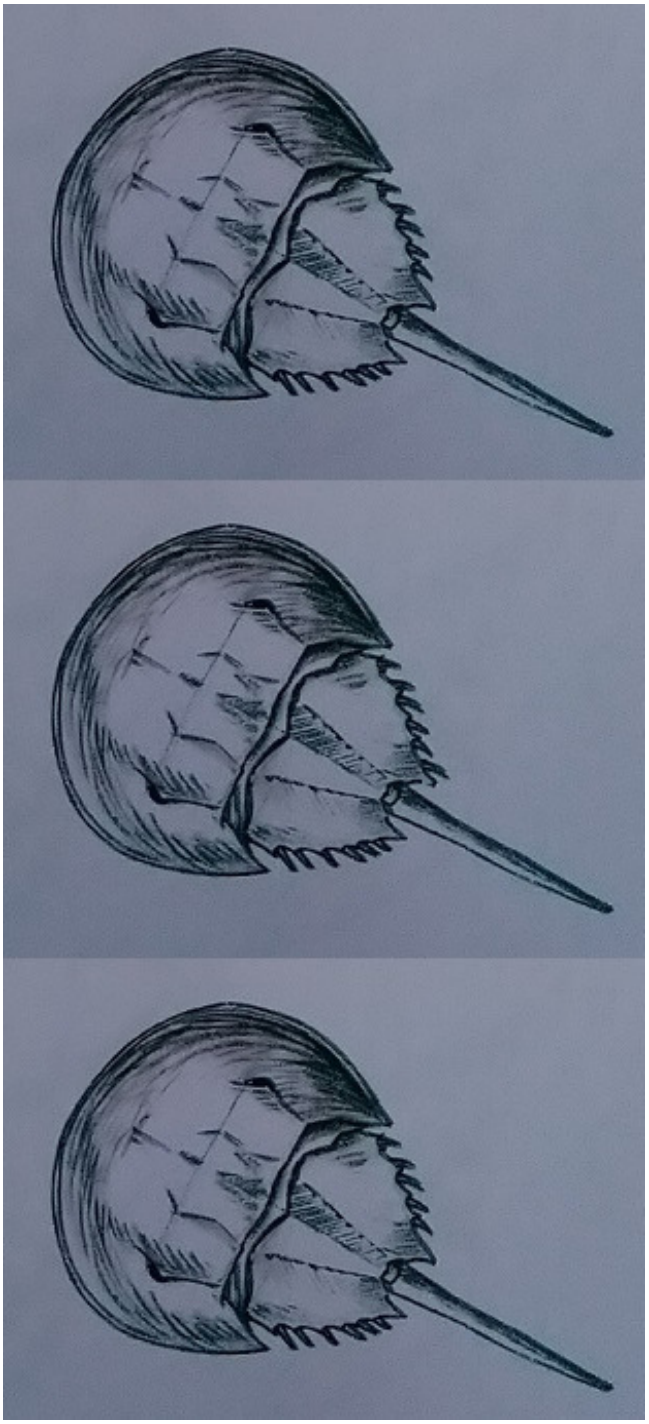
Later in the year our garden will be serving different purposes. Birds will eat the dried seeds of our New York Ironweed, wreath goldenrod, swamp sunflowers, and Joe Pye weed. If you have these plants in your garden, you could leave them on the ground to reseed your garden in the spring, or you could cut long stems of the seemingly dead plants and tie them like a bouquet. If this is left hanging on a fence, the seeds will be readily available to birds when they might have normally been covered with snow. Gardens with red and black chokeberry will help sustain birds throughout the winter, too. We don't have these in our gardens – yet!

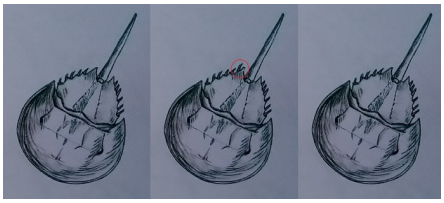
You can create your own Peconic-Friendly garden and observe what kind of changes happen in your backyard. If all of this is foreign to you, visit our plant database at https://www.peconicestuary.org/plant/

This is an incredibly useful resource for finding what plants will thrive on your property based on soil type, pH, moisture, light, and salt levels. You can also filter your options based on what kind of wildlife you want to attract. We plan to host a native plant workshop in the spring at one of our demonstration gardens with experts to guide any blossoming gardeners, so look out for that announcement on our website and social media pages, or sign up to be on our mailing list!

Can you spot which Horseshoe Crab is different?



Answer Key



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