ISSUE 1, VOL. 12 | MARCH 2018

SPRING NEWSLETTER

Protecting and Restoring Long Island's Peconic Bays

What's inside:

We need your input!

As we update our Comprehensive Conservation Management Plan, which is the blueprint for our entire program, we are asking local citizens for their input on what we should include in our plan. Our brief, ten-question survey gives us feedback from the public about what issues we should address in the next several years, and will only take you a few minutes. To fill out our survey, please go to **www.peconicestuary.org/protect-the-peconic/ccmp-public-input-survey**

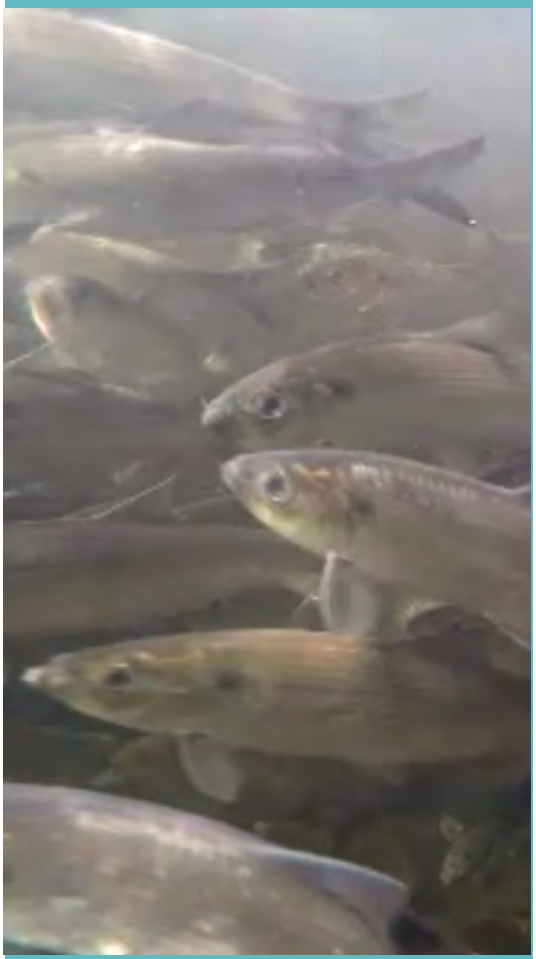
Upgrade Your Septic System with Ease

The new phase of Suffolk County's Reclaim Our Water initiative is the Septic Improvement Program, a grant and loan program to assist homeowners who wish to upgrade their cesspools and septic systems. This website provides information for both homeowners and industry professionals and also includes updates on advanced/alternative on-site wastewater treatment technologies, new and proposed code changes, and other wastewater improvements being made throughout the county. Learn more at **reclaimourwater.info.** The towns of East Hampton, Southampton, and Shelter Island also have established septic rebate programs.

Instagram Influencer

The Peconic Estuary Program participated in National Estuaries Week, a campaign to celebrate and increase awareness for estuaries across the country. Our program was listed as #8 in the Top 10 Most Influential Participants on Instagram for the campaign.

Byron Young measuring alewife.



Alewife need our help!

BY ELIZABETH HORNSTEIN, PEP STATE COORDINATOR

Alewife is a diadromous fish species that spends most of its life in the ocean but returns to freshwater rivers, streams, and lakes to spawn each spring. They provide many vital ecosystem services throughout their life cycle including filtering the water column and serving as prey for important commercial and recreational fish species, migratory birds, and mammals. Alewife populations have been declining for the past century in part due to migration barriers – dams and road culverts – that block access to important freshwater habitat. The Peconic Estuary Program has been working with its partners to restore critical freshwater spawning and maturation habitat for Alewife and other local diadromous fish, by installing fish passage structures that allow the fish to go over, around, or through the barriers. Additionally, each spring, PEP and volunteers across Long Island monitor the arrival of Alewife to our freshwater rivers and streams. Currently, little is known about the overall status of Alewife across Long Island, so monitoring where and when these fish spawn is an important part of our restoration efforts.

To learn more about Alewife, join us on April 21st as we celebrate World Fish Migration Day!

Woodhull Dam, Riverhead NY. 10:00am - 12:00pm

World Fish Migration Day (WFMD) is a global celebration to create awareness on the importance of open rivers and migratory fish. The Peconic Estuary Program will be hosting a World Fish Migration Day Event at the Woodhull Dam in Riverhead. Every year thousands of alewives congregate below Woodhull Dam in an attempt to reach their upstream spawning habitat. This event will provide an opportunity to see an active alewife spawning run, help collect biological data, and hear about the plans to construct fish passage at this location and other locations around the Peconic Estuary.

Sharing continuous water-quality monitoring in support of coastal ecosystem health in the Peconic Estuary at the CERF Conference

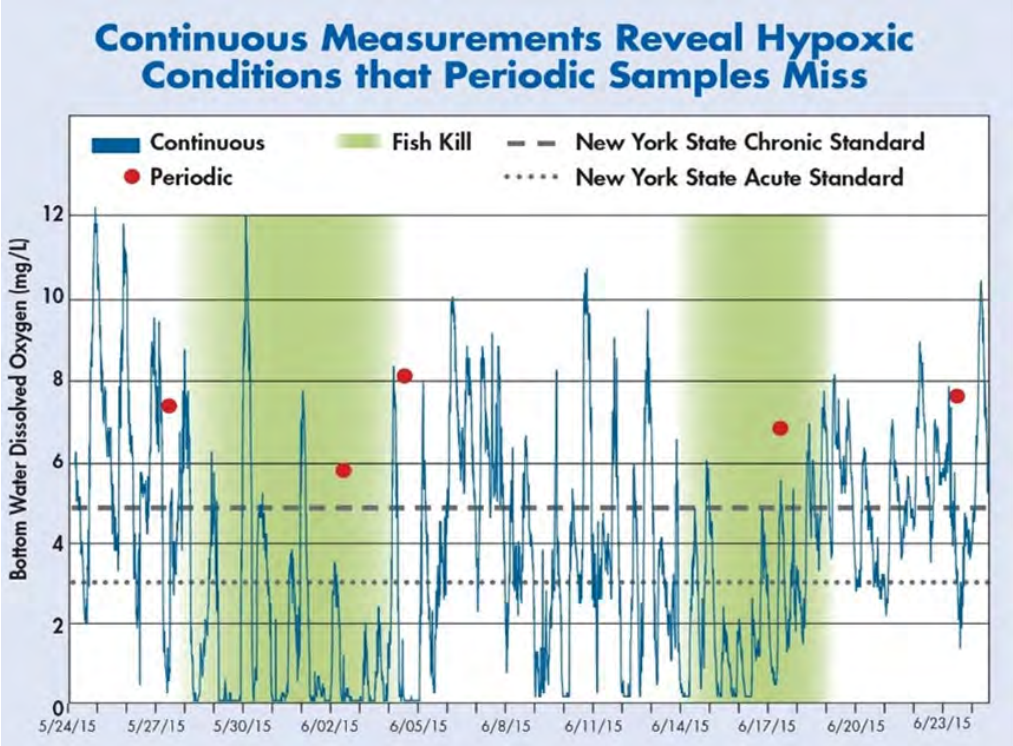
This past November at the 24th Biennial Coastal Estuarine Research Federation (CERF) Conference in Providence, Rhode Island, Sarah Schaefer, serving as Acting Director of the Peconic Estuary Program (PEP), presented on the collaborative efforts of our partners to collect continuous water quality monitoring data in the Peconic Estuary and in other locations in New York, Connecticut, and Northern New Jersey. Peconic Estuary Program was proud to represent our partners in this effort who include, the United States Geological Survey (USGS), the NY Department of State, and the NY State Department of Environmental Conservation.

These groups work together to make sure water quality is monitored continuously, (at six minute intervals) in the coastal waters at many locations surrounding NY. This information is very useful in understanding the health of the coastal waters and can tell us so much about the day-to-day/seasonal changes in the water quality in the Peconic Estuary and other bodies of water. By monitoring water quality continuously we can better understand why and when certain water quality impairments exist, such as harmful algal blooms, low dissolved oxygen levels, and fish kills for example. Additionally, this water quality information helps to determine whether water quality is improving due to habitat restoration and water quality improvement projects.

Suffolk County Department of Health Services, Bureau of Marine Resources collects additional water quality samples periodically (every two weeks) throughout Suffolk County coastal waters. These periodic samples collect valuable water quality data, but may sometimes miss the whole story that continuous water quality monitoring can provide.

"By monitoring water quality continuously we can better understand why and when certain water quality impairments exist, such as harmful algal blooms, low dissolved oxygen levels, and fish kills."

See the graph below of dissolved oxygen levels recorded in the Peconic River with periodic sampling and with the continuous water quality sampling around the time of the 2015 fish kill in the river. The periodic sampling times, indicated by the red dots, show dissolved oxygen levels above the safe levels for marine life; however, the continuous water quality monitoring data, indicated by the blue line, show levels reaching hypoxic conditions, below 3 mg/L, for extended periods of time.



There are two locations in the Peconic Estuary that have continuous water quality monitoring stations. Water quality monitoring data is uploaded to the USGS website and can be downloaded and viewed at the links below:

1. Orient Point USGS Water Quality Monitoring Data- https://waterdata.usgs.gov/ny/nwis/uv/?site_no=01304200

2. Riverhead USGS Water Quality Monitoring Data- https://waterdata.usgs.gov/nwis/uv/?site_no=01304562

Our First Year Recycling Fishing Line: Complete!

Early last year, PEP began installing recycling receptacles around the Peconic Estuary to collect used monofilament fishing line. They were placed at boat ramps, marinas, and other popular fishing sites. A total of 18 receptacles were placed around the Peconic Estuary, and PEP Staff collected the fishing line on three separate occasions, summer, fall, and winter.

We are happy to report that our receptacles are working well! We have collected over 3.5 pounds of line all together, which may not sound like a lot, but because fishing line is very light in weight, we could have *prevented hundreds or even thousands of yards of line* from getting lost in local waters! Discarded fishing line can pose problems not just for wildlife, but also for swimmers, divers, and boaters. Getting fishing line caught in your propeller can be damaging and expensive to fix!

You could just throw used monofilament line into the trash, but using a recycling receptacle is better. The line can't get back out of the receptacle with the grates that we have installed on the front, but wind or pests can take line out of an open garbage can. Plus, the line in recycling bins gets repurposed. We send our collected line to Berkley Fishing in Iowa, where they melt it down and turn it into tackle boxes, spools, or even artificial fish habitat!

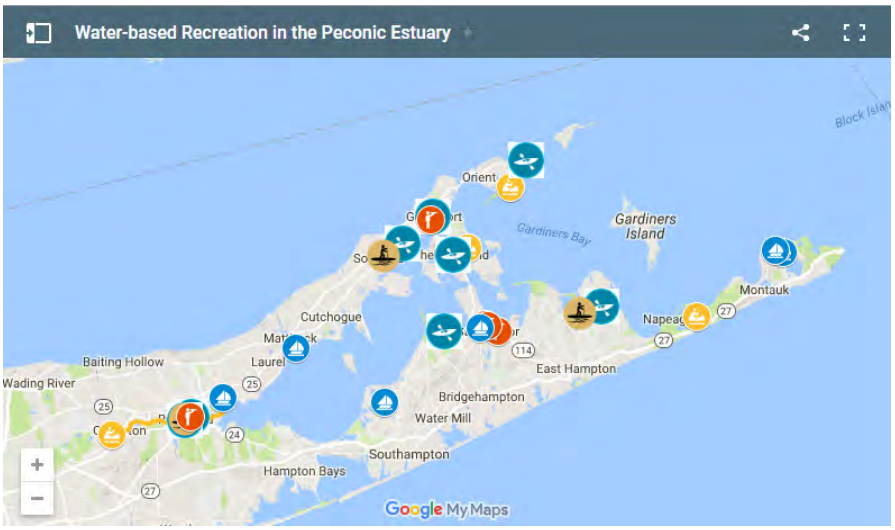
If you have used fishing line, or if you find any on the beach, don't throw it away. You can find a map of our recycling locations and partner locations at **www.peconicestuary.org/news-and-blogs/maps-gis/maps-land-use/** and scroll down to the second map.

We will be collecting line again soon. If you would like to be involved in helping as a volunteer, please contact **peptalk@peconicestuary.org**

All this was collected from one receptacle on Pine Neck Road in Southold!

PEP Launches New Website

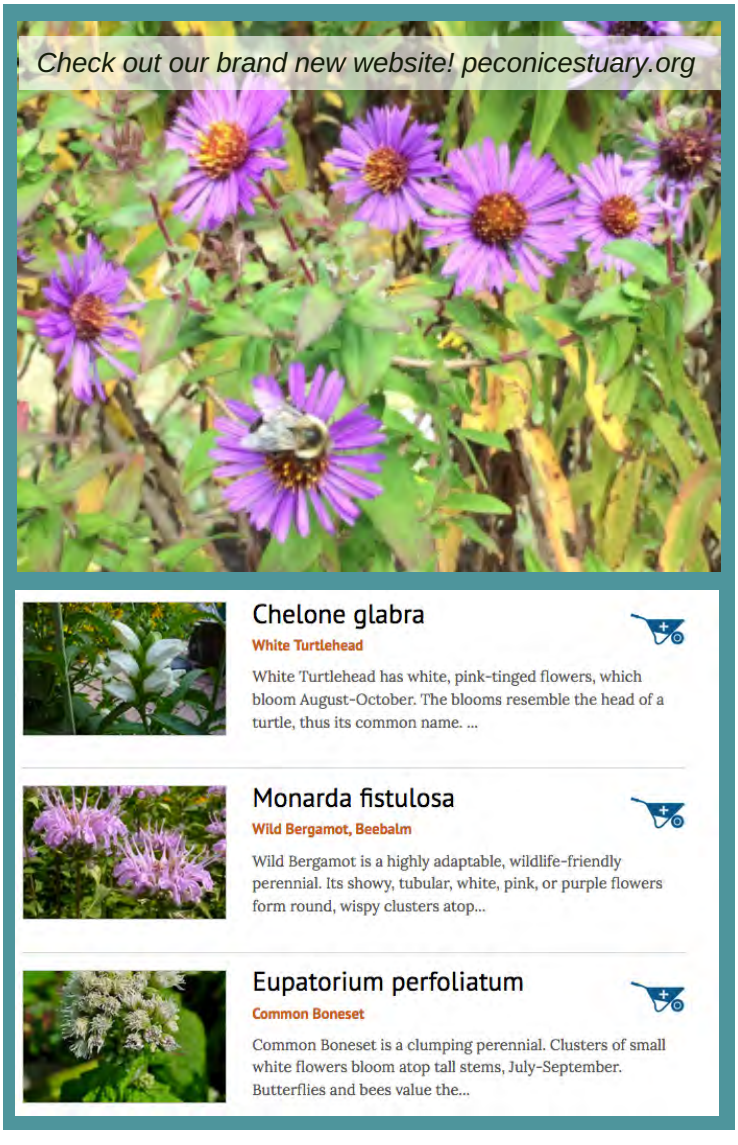
Last fall, we premiered the new updated version of our website which features a vast amount of information about the Peconic Estuary, places to explore, things you can do to help, quizzes, blog posts, and much more! Go to **peconicestuary.org** to see for yourself!



We have many recreational maps on our new website to show popular areas for canoeing, kayaking, fishing, boating, bird-watching and hiking. You can find them all under the "Discover" tab. This one to the left features different options for kayak and boat rentals and water exercise classes that are available around the estuary.

It is now easier than ever to apply for our Homeowner Rewards Program.

This program is a great opportunity for residents who live within the Peconic Estuary watershed. We offer reimbursements for those who install native plant gardens, rain gardens, or rain barrels—up to $500. The purpose of this program is to provide incentives for locals to help improve the water quality of the Peconic Estuary by reducing runoff. These projects encourage homeowners to replace semi-permeable surfaces on their properties, like grass and pavement, with options that collect and/or clean stormwater runoff. There are several other benefits to participating, like saving money, beautifying your property, and contributing to a more flourishing environment. Native plants, for example, provide habitat to bees, birds, butterflies, and bugs and since they are adapted to local conditions, they require less water than exotic plants and do not need fertilizer.



We now have a shorter, online application. You can find our applications by going to **www.peconicestuary.org/what-you-can-do/create-a-peconic-friendly-yard/** and scrolling down to the "Homeowner Rewards Program." You can also download the application to print and mail in.

We've also launched our Peconic-Friendly Plant Database (bottom left) to help you choose the best plants for your property. You can even filter your options based on soil type, light availability, and what wildlife you can attract! Visit **www.peconicestuary.org/plant**

Once you have filled out your application, we will contact you to let you know you have been pre-approved. Then you just need to purchase your native plants and get itemized receipts. When your project is complete, send us copies of the receipts and photos of your project and we will give you a final approval. Then your reimbursement check will be on its way!

Funding is limited, so get your applications in soon! If you have any questions, please e-mail rewards@peconicestuary.org.

Bay scallop on a sulfur sponge. Photos courtesy of Christie Pfoertner.

Creature Spotlight: Sulfur Sponges (*Cliona celata*)

BY DR. GLENN LOPEZ, PROFESSOR AT STONY BROOK UNIVERSITY

The sulfur sponge *Cliona celata* is a common and often conspicuous member of shallow water benthic communities around Long Island, where its massive, bright yellow colonies provide a strong splash of color to the seabed. Curiously, it is also one of the more inconspicuous sponges, and can be easily overlooked. The reason for this discrepancy is that the sulfur sponge has several growth stages, beginning by boring into shells, living and dead. During this cryptic phase it is easily overlooked but can be identified by the many small pores it excavates in shells. This bioeroding activity of sulfur sponge can have a strong detrimental effect on shellfish, especially species that live above the sediment, such as oysters and scallops.

Cliona celata occurs on both the Atlantic and Pacific coasts of the U.S. and in European waters. On the Long Island coast it is one of several common sponges species. Its colonies can grow quite large and massive. Large sized colonies occur in areas of strong water movement. For example, the mouth of West Meadow Creek in Stony Brook, where the tidal currents take a horseshoe bend around the end of West Meadow beach, resulting in a deep “sponge grotto” (http://life.bio.sunysb.edu/marinebio/westmeadow/sponge.html) supported by strong tidal flux. Sponges are filter feeders, collecting planktonic microorganisms from the water, and strong water flow increases the delivery of suspended food and removal of waste products. Colonies exhibit faster growth and regeneration from damage under high water flow (Bell et al. 2002).

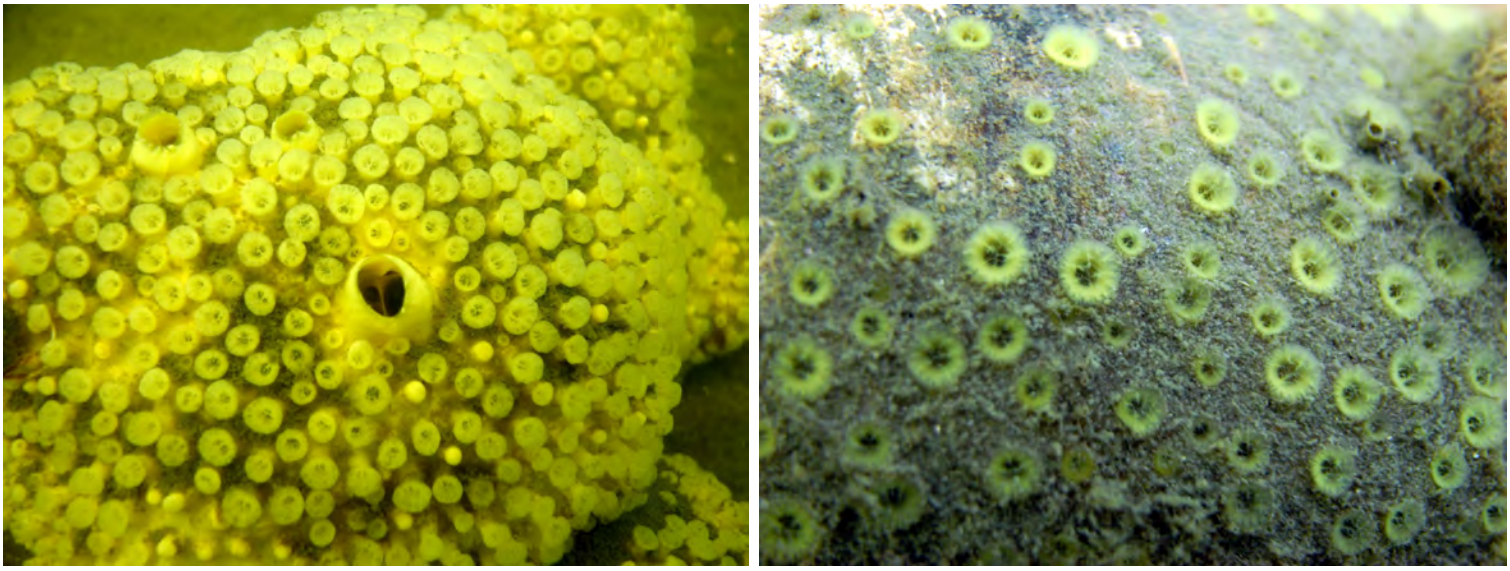
The sulfur sponge begins its postlarval life by boring into calcium carbonate shell, and it appears that most any type of shell will do. They are commonly found

boring into shells of oysters, hard clams, blue mussels, scallops, jingle shells, whelks and other snails, and barnacles. Around Long Island, they are commonly found in shells from hard clams on the seabed. Living hard clams remain buried in sediment, so their shells are rarely colonized by sulfur sponges. In Great Pond, Gardiner's bay, large hard clam shells were the most common substrate for sulfur sponges (Nicol & Reisman 1976).

Sponges eventually outgrow the shells they have colonized. Growth is limited to the warmer months, with smaller colonies growing 2-3 cm in diameter during the growing season. Growth can be countered by predation by a wide variety of predators that include nudibranchs, crabs, and urchins. Most predators can only eat the ventilation papillae that extend out of the pores that the sponge has excavated in shells, and regrowth of eaten material occurs within two weeks. *Cliona celata* extends its papillae only about 1 mm beyond shell surface. There are a wide variety of predators that can prey on sponge tissue, but *Cliona* in its shell phase is relatively well protected so predators do not often control its abundance and distribution. As *Cliona* grows larger, it weakens the shell it has bored into, weakening it and making it more susceptible to predation (Guida 1976).

As shell bioeroders, sulfur sponges can have strong detrimental effects of shellfish, especially species that live above the sediment, such as oysters and scallops. They have caused extensive economic damage to oyster culture. Infested oysters grow more slowly because oyster to use energy for shell repair instead of growth (Carroll et al. 2015). Infested shells also can decrease market value.

In conclusion, sulfur sponges and be cryptic or large and colorful, an important member of seabed communities and can cause economic harm. *Cliona celata* may be a boring sponge, but it is an interesting and fascinating species in Long Island waters.



Two stages of the boring sponge. On the left, we have what's known as the "gamma stage," where the sponge overgrows the shell and becomes massive. On the right is the "alpha stage," which is when the sponge is inside the shell and the feeding papillae poke out from the holes they have made in the shell. (Photos courtesy of John Carroll)

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