



COASTAL STEWARD

LONG ISLAND

July 2020 Edition

What We've Been Up to: Shellfish Restoration Program

We are happy to announce that after a period of waiting and uncertainty, the community has safely come together to participate in this summer's Shellfish Restoration Program! One of the Coastal Steward's missions is to restore the natural, self-sustaining oyster population into Port Jefferson and Mt. Sinai harbors. For the past 8 weeks, a small group of dedicated volunteers have been kick-starting the program. All volunteers are required to wear masks and social distance as much as possible in order to control the spread of COVID-19. On week 1, we began by counting and measuring the oysters. One of our volunteers, Ethan, an incoming freshman at Stony Brook University, is conducting an experiment with 800 individuals from our oyster population. His goal is to determine which conditions are most optimal for the oysters and will be tracking their growth and mortality rate carefully over the next few weeks. We will be posting and updating a graph that will display the data and results that Ethan gathers. On week 2, half of our volunteers counted and measured Ethan's group of oysters while the rest power washed the bags and cages where the oysters reside. During week 3, we discovered that our bags of oysters did not get that dirty so we were able to finish up our power washing quickly and walk the shore to do a beach clean up! We were able to save a lot of bottles, balloons, and straws from entering Mt. Sinai harbor. After each bag was power washed during week 4 our team of volunteers split each bag of oysters into two halves. This allows for better growing conditions, prevents overcrowding, and allows for easier handling when moving the bags out of the water. Come down to Cedar Beach in Mt. Sinai to help us continue growing our oysters and stay tuned for more updates on these vital coastal inhabitants!



Interested in Joining our Shellfish Restoration Program?

Head over to our website at coastalsteward.org and click on our News and Events tab. As soon as we have received the necessary approvals from the various municipalities involved, we hope to be able to resume some of our cleanups through the summer and into the fall. Our next Shellfish Restoration Program dates for the month of August are:

August 8th from 8:00am - 12:00pm

August 22nd from 8:00am - 12:00pm

As more members of the community come out to join the Coastal Steward we like to hear about what they enjoy best when volunteering. One of our awesome volunteers said this:

"My name is Olivia Reyes, I am 13 years old and I am a Stony Brook resident. I love my community and our environment so this program has a special place in my heart.

We got involved with the Coastal Stewards by luck. My family owns a boat and each time we would go out on our boat we would see our local beaches and waters polluted with items left by beach goers and boaters. It would always bother me that people could be so careless. So, we decided to do our part and would participate in beach cleanups with the Coastal Steward and the Town of Brookhaven. I'm not going to lie, it's pretty gross picking up garbage off the beach and also gets really annoying that people could be so lazy and thoughtless as to not pick up after themselves. However, it is rewarding knowing we're playing a small part in keeping our beaches clean and protecting our sea life.

One day my mom told us about a program called the Shellfish Restoration Program which was run by the Coastal Stewards, and we thought we'd give it a try. Little did we know that it would be fun learning about the oysters, hard work caring for them, and really cool seeing them grow from week to week. So why is this program so important to me and more importantly, so very urgent to our ecosystem? Did you know that an oyster can be considered a vacuum cleaner of the sea? They filter the water removing organic and inorganic particles from the water resulting in cleaner water which positively impacts other species.

Therefore, by us helping them grow and releasing them when they are mature, we are working with nature to help clean our local waters. It's not always easy work, you will go home dirty and smelling like the sea but if you really care about the environment, it's a small price to pay. Are we making a big impact on our environment? I honestly don't know BUT we are making a small dent in helping keep our local waters clean and wild-life safe. Since my family are not the only ones out there doing this, I know our dent is getting bigger with each year that passes and that makes me smile.

If you really care about the environment and want to make a positive, long term impact, please come join us. Bruce Folz and his team are extremely smart, friendly, and like to pass on their knowledge.

Hope we see you out there!"



Ever Wonder About the Wildlife and Plants You See on Long Island's Shorelines?

When our volunteers get together to spend time outside they get to observe all the interesting wildlife and learn some cool new facts! Here are some of the things that we've learned and would like to share with you!

Native Species Edition: Oysters

1. Oysters filter the water that we use for recreational, sporting, and commercial purposes each day. A single oyster can filter up to 50 gallons of water per day.
2. Oysters contribute to the sedimentation of the shore. As oysters are eaten by natural predators, their shells crack and refine to become a part of the sandy bottom of the Long Island Sound.
3. The Eastern Oyster has been a valuable food source in our area for thousands of years. Native Americans harvested so many oysters that we can locate their ancient coastal villages by large mounds of discarded shells.



Since 2000 the Coastal Steward has released more than 500,000 shellfish in Port Jefferson and Mt. Sinai harbors. Oysters are a type of bivalve mollusk and they have two siphons that they use to intake and expel food and water from their bodies. When the oyster brings in water it filters out small organisms and nutrients that they then consume. This is how oysters and other shellfish help to make our waters clean and improve the health of the Long Island Sound! Having cleaner water allows for sunlight to penetrate into greater depths aiding to create new marine habitats for other shellfish and marine organisms. A natural occurrence that can limit the oysters hard work is something called a harmful algal bloom. This is an event that occurs frequently in our Sound that creates a layer of algae on the surface of the water. This layer stops light from penetrating the water column and takes up lots of oxygen which can be potentially fatal to marine organisms. This is why it is very important for us to increase self-sustaining oyster populations that can help to deter these blooms. Another cool fact about oysters is that they create reefs! Not the colorful coral reefs you might be thinking of, but they function similarly in that they also provide structure and habitat for other marine organisms. Oysters are benthic creatures and once they settle in a spot they don't move. So, when oysters reproduce the larvae survive best when they land on top of a group of adult oysters and as they grow, they create this reef formation. These reefs benefit us by protecting our coastline from storm damage and erosion. I hope that you can now see why it is beneficial to our community to restore and protect our shellfish in the Long Island Sound.

Invasive Species Edition: Asian Shore Crabs

1. Asian Shore Crabs are an invasive species that originally hails from East Asia and now reside on shores in North America and Europe. They were discovered in the United States circa 1988.
2. Asian Shore Crabs are opportunistic omnivores, meaning that they will eat anything and everything such as salt marsh grass, invertebrates, fish larvae, juvenile fish, and microalgae.
3. These invaders have been found all along the East Coast from Maine to South Carolina drastically changing the ecosystems they reside in.



While volunteering through the Coastal Steward and helping out with their Shellfish Restoration Program, many Asian Shore Crabs have been found by volunteers. Different variations of sizes of this crab have been seen, some ranging from the size of a quarter to the size of a head of a screw. We find these crabs in the bags that house our oysters and on the beach of Mt. Sinai Harbor. What makes this species of crab a problem is that they are competing with native fish and other crab species for food and shelter. Intertidal zones and rocky terrain are the Asian Shore Crab's ideal habitat so their new home in the Long Island Sound suits them well. Since their diet is so broad, they can easily fit into this habitat and essentially take over most of the food supply and end up eating larvae of other native aquatic species. Since they have an abundance of food they can now reproduce rapidly and mature at a quicker rate making it difficult for conservation efforts to curb their increasing population. As the Asian Shore Crab population increases, native biodiversity decreases significantly. Native crab populations such as the Atlantic Blue Crab, Jonah Crab, Atlantic Rock Crab, and Common Spider Crab have been dwindling because of this invasive species presence.

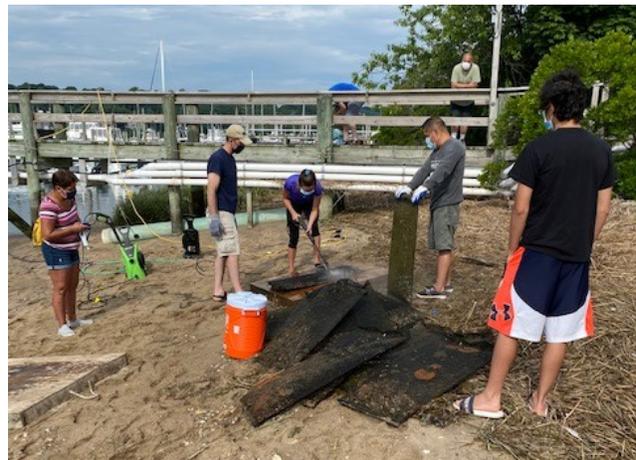
Shorebird Edition: Piping Plovers

1. Piping Plovers are small, rare shorebirds that are an endangered migratory species. Their world wide population is under 10,000 individuals.
2. Piping Plovers breed and lay their eggs on shorelines along the Northeast. As Long Islanders, we are lucky to have these small birds on our shores to increase their population.
3. Piping Plovers are ground foragers and their diet consists of marine invertebrates that they pluck from the shoreline.

Along Long Island's North and South Shores, one can find areas roped off for Piping Plover nesting areas. These small shorebirds are protected under state and federal laws due to their endangered species status. Piping Plover's population decline is due to human, dog, and vehicle disturbances, destruction of beach habitat, and a change in water levels that affect their nesting sites. By having protected nesting areas, this leads to further conservation efforts to increase their population. Disney's Pixar short film "Piper" features a close relative of the Piping Plovers, Sandpipers, and how they interact with their environment. I recommend watching this cute animated short because it sheds some light on the behavior of these small birds we see on our shorelines!



The short film shows how these shorebirds get their food by foraging along the shore line when the waves are out. When foraging, they look for small bubbles in the sand which can lead to the homes of small crustaceans, marine worms, water beetles, roundworms, and snails. A fun fact about Piping Plovers is that they are an indicator species, meaning that scientists look at their population to see how the overall condition of the ecosystem is doing. Piping Plovers control the small crustacean and insect populations in their habitats. Even though they are small birds they do a big job cleaning our beaches!



For more information visit our website

<https://www.coastalsteward.org>

