



What We've Been Up To & More

With the arrival of spring comes flowers, sunshine, and CSLI events! It has been super exciting to see our community once again contribute to the restoration and preservation of our coastal ecosystems. In this newsletter we will discuss exciting details on our beach cleanups and shellfish restoration program events. We will also explore the life cycle of the Eastern oyster, the species of oysters we grow and release into our harbors.

Beach Cleanups & The Shellfish Restoration Program

This spring we held several successful beach cleanup events, including our Earth Day Smith Point Beach Cleanup and our Great Brookhaven Cleanup. It was great to see our community come together to remove trash off our beaches. Removing trash not only makes our beaches look beautiful, but also helps create a safer habitat for our marine organisms.

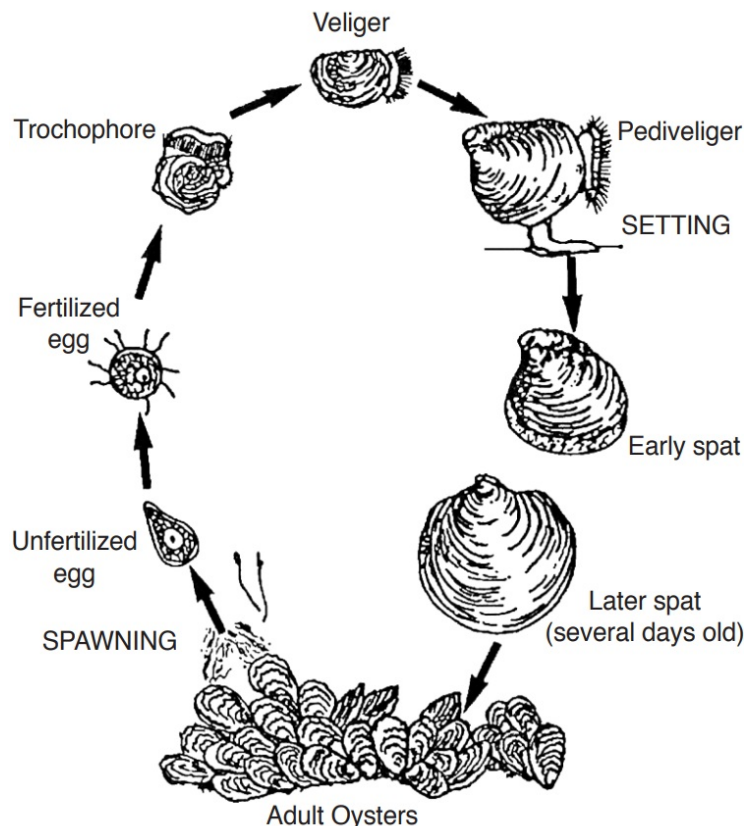
On June 1st we held our first shellfish restoration program event for the season. We received 75,000 small Eastern oysters from the Town of Brookhaven, which were divided into 75 bags. With the help of our amazing volunteers, these bags were placed in large growing cages submerged in Mt. Sinai Harbor. Throughout the summer and fall, we will be raising these oysters and monitoring their health and growth. Every two weeks we will remove the oysters from their cages and clean them off to prevent overgrowth of algae and other organisms that may inhibit the growth of the oysters. We are excited to start up this program once again and can't wait to release the oysters back into our harbors!



The Eastern oyster, *Crassostrea virginica*, begins its reproductive cycle in late spring and continues through early fall. An increase in temperature and salinity act as cues for Eastern oysters to begin spawning. During spawning, Eastern oysters synchronize the release of sperm and eggs, with females releasing over 100 million eggs during each reproductive season. Once the gametes are released, the sperm and the egg meet and fertilization occurs in the water column. Upon fertilization, the larvae develop into trochophore, a pear-shaped microscopic larva that has a distinctive band of cilia, hair-like structures that are present on a variety of cell surfaces. The band of cilia allows the larva to control their swimming while drifting out in open water.

After 24 hours, the trochophores progress to the veliger stage, where they form their shells and an organ called a velum. The velum, which is formed from the ciliary band from the trochophore stage, is an important organ that allows the larvae to feed on small plankton and swim. Within a couple of weeks the larva transitions into the pediveliger stage, which is defined by the development of eye spots and the foot. This muscular foot allows the larva to abandon their open water lifestyle and begin settling to various surfaces. At this stage the larva will search for shells, rocks, oysters, and other surfaces to attach themselves to. Once finding a suitable home, the larva will cement themselves to the surface, and transition to the spat stage. Spat are small juvenile oysters that mature into adult oysters between one to three years.

Once an adult, the reproductive cycle begins again with the adult Eastern oyster spawning and producing the future generations. Although Eastern oysters make a large effort during spawning, only around 1% of the fertilized eggs become adults. Because of these low survival rates, it's extremely important to restore oyster populations that have been historically declining. Through our shellfish restoration program, we have increased Eastern oyster populations by growing oysters and releasing them to our harbors. By continuing this program we are restoring Eastern oyster populations and aiding in the recovery of our coastal marine ecosystems.



Sources

Texas Parks and Wildlife Department. "Eastern Oyster." Accessed July 1, 2024. <https://tpwd.texas.gov/huntwild/wild/species/easternoyster/#:~:About%20seven%20weeks%20after%20hatching,the%20next%20stage%20of%20maturity>.

National Oceanic and Atmospheric Administration (NOAA). "The Eastern Oyster in the Gulf of Mexico." Accessed July 1, 2024. <https://repository.library.noaa.gov/view/noaa/45763>.

University of Florida Institute of Food and Agricultural Sciences (IFAS). "The Cultivation of the American Oyster." Accessed July 1, 2024. <https://shellfish.ifas.ufl.edu/wp-content/uploads/The-Cultivation-of-the-American-Oyster.pdf>.

Want to Get Involved?

We have a lot of amazing events coming up this summer and fall! Don't miss out on the fun! Click [here](#) for our event schedule.

Support Coastal Steward L.I.

Extra special thanks to all of our volunteers from this spring and to those who have supported us in the past through donations.

However, with the loss of grant money, cancellations of several paid local cleanup events and increased pressures from higher insurance costs and other operating expenses, Coastal Steward is in jeopardy of not being able to continue on next year. With your support NOW, we can continue our mission of restoring and preserving Long Island's coastal ecosystems.

You can support Coastal Steward LI by making a tax-deductible donation. Please click [here](#) to make a generous donation.

National Nonprofit Day-August 17th
National Nonprofit Day is a day where non-profit organizations are recognized and celebrated! We are asking for extra donations and volunteers who can help in fundraising to help us get through a difficult year.

