



## **Long Island Nitrogen Action Plan (LINAP) Newsletter**

### **The Town of Huntington's Aquaculture Initiatives**

This edition of the LINAP newsletter will focus on the Town of Huntington's aquaculture initiatives and how community collaboration can play a critical role in tackling local environmental challenges to achieve impactful results. It features an interview with Garrett Chelius, Deputy Director of the Department of Maritime Services, who provides insights into the town's efforts in areas such as oyster reef restoration and shell recycling.

---

Aquaculture is a method used to produce food and other commercial products, restore habitat and replenish wild stocks, and rebuild populations of threatened and endangered species. The Town of Huntington has proven to be a leader in aquaculture on Long Island.

Central to the Town's success is the Rotary Environmental Action Coalition of Huntington (REACH), a partnership between the Town of Huntington, Cornell Cooperative Extension, and Rotary International. REACH aims to address local environmental challenges through a range of water quality improvement projects. "REACH brings together the expertise of Cornell Cooperative Extension, the volunteer efforts of the Rotarians, and the resources of the Town of Huntington," said Garrett. By leveraging the combined strengths and networks of these organizations, REACH is able to foster a culture of environmental stewardship and drive significant change both within Huntington and beyond.

### **Oyster Reef Restoration**

One of REACH's signature projects is the restoration of oyster reefs. Oyster reefs are an important ecosystem to Long Island. We all know that oysters are harvested to eat but, did you know they also clean the water by filtering it? Additionally, the way that oysters grow close together and form oyster reefs allow them to be used as habitat by many species of marine life. Oyster reefs also can reduce storm damage by decreasing wave energy, and erosion along shorelines.

Historically, oysters were abundant in the waters around Long Island and New York City. Overharvesting, water quality impairments, and pollution have caused a significant reduction in the population. Many municipalities, environmental groups, and other agencies are working hard to restore the oyster population and oyster reefs across Long Island and New York City. One method of restoration is known as the spat-on-shell method. In nature, oysters are broadcast spawners – meaning that eggs and sperm are released into the water column where fertilization occurs. After floating for a short time, oyster larvae seek a hard substrate

to settle on. Once oyster larvae permanently attach to a surface, they are known as spat. The spat-on-shell approach is used to create oyster reefs, mimicking how reefs would form naturally in the wild.

The Town of Huntington uses the spat-on-shell approach, growing oysters specifically for reef restoration rather than consumption. The oysters are nurtured in Floating Upweller Systems (FLUPSYs), which are specialized nursery docks designed to cultivate shellfish until they reach a size suitable for planting in natural reefs. Cornell Cooperative Extension seeds the shells, and measures and maintains them during the summer months. The Rotary provides volunteers who work to clean the growing shells each week and the Town provides the facilities to house the FLUPSYs as well as the maritime vessels needed for this program.

The project has evolved from an initial focus on survival rates to a comprehensive reef-building effort. Northport Marina Woodbine and Gold Star Battalion Beach now host dedicated FLUPSYs for this work, with local yacht clubs also running related programs. “In the first two summers, we planted over 450,000 oysters in local bays,” Garrett notes. “These reefs filter water and provide habitat for marine life. We’ve exceeded that number this year alone.”



*Oyster Reef Restoration. Photo Credit: Town of Huntington*

### **Oyster Shell Recycling**

Another critical initiative is the Town’s shell recycling program. This effort collects discarded oyster and clam shells from local restaurants, cleans and cures them, and uses them as substrate or host shells for future oyster reefs. Volunteers collect the shells from participating restaurants and deposit them at the shell curing area. Once the shells have cured for nine

months to remove all pathogens, as required by the Department of Environmental Conservation, they become substrate for oyster seedlings. "Since starting the program in May 2023, we've collected over 500 five-gallon buckets of shells," Garrett reports.

The shell recycling program is an important step in the Town's overall oyster reef building project. With this initiative, the Town of Huntington is now becoming a model, providing shell stock to other towns and cities to begin their own programs. "The success of the program has been remarkable," Garrett adds with pride. "We've now reached the point where we export shells to support other Long Island communities, becoming net exporters in the process."





*Over 500,000 oysters ready to be deployed in the bay this summer. Photo Credit: Town of Huntington.*



## Growing Sugar Kelp

Huntington is also at the forefront of cultivating sugar kelp, a native Long Island seaweed that can be grown in the winter months. This seaweed absorbs nitrogen and carbon dioxide from the water and, once harvested and dried, can serve as an eco-friendly fertilizer. "Our sugar kelp program has two primary objectives: to reduce nitrogen levels in our waterways and to provide a sustainable alternative to traditional fertilizers," Garrett explains.

With a new greenhouse and equipment donated by Lazy Point Farms and the Moore Foundation, the Town is now able to dry and process the kelp locally. "The first year, we took our harvested kelp to a farm for processing. But last year, Lazy Point Farms generously donated a greenhouse, allowing us to dry and process our kelp locally. Lazy Point Farms also donated a hammer mill machine, so we're going to try to make the kelp into a powder so it's even more concentrated," Garrett explains. Groundskeepers at several town parks and golf courses have expressed interest in using the kelp as a natural bio-stimulant and soil amendment.

The Town plans to expand this project with additional kelp lines in all of the Town's bays and harbors.



*Sugar Kelp Drying. Photo Credit: Town of Huntington.*

In addition to marine initiatives, Huntington is growing native plants to help restore and protect local habitats. For ten months of the year, when the greenhouse is not in use for drying the kelp, the focus will shift to propagating plant species native to Long Island to be planted on town property. “We’re focusing on native plants that will help manage stormwater runoff and support local bee and butterfly populations,” says Garrett. “These efforts are crucial for maintaining the health of our upland areas where stormwater runoff goes right into the harbor.” The town plans to use the kelp as natural fertilizer to grow the natives and plant them at strategic locations throughout the town where stormwater runoff is problematic.

### **Educating Huntington’s Future Environmental Stewards**

The town is also expanding its educational outreach with the addition of two new outdoor classrooms at Gold Star Battalion Beach where one of the Town's FLUPSY is kept. This exciting development, funded by a grant from the Rotary and supported by Stony Brook University, represents a major step forward in providing hands-on, experiential learning opportunities. These outdoor classrooms will be designed to offer STEM (Science, Technology, Engineering, and Mathematics) education for students from kindergarten through 12th grade. By integrating the natural environment into the curriculum, the new facilities will enable students to engage with their studies in a real-world context, fostering a deeper understanding of environmental science and sustainability. The initiative aims to inspire and educate the next generation of environmental stewards to continue to protect Huntington’s marine waters.

Along with the unwavering support of Town Supervisor Edmund Smyth and the Town Board, Garrett credits the success of these initiatives to the strong sense of community involvement and volunteerism in Huntington. He describes how the Rotary Club, volunteers, and multiple local organizations have come together to support these projects. “We have about 30 to 40 volunteers of all ages working at the docks every weekend, cleaning cages and collecting data as part of a large citizen science effort,” says Garrett. “The community has a stake in these initiatives, and it’s their dedication that drives us forward. Our projects are designed to address local environmental challenges while engaging the community. The success of these initiatives is a testament to the power of collaboration and community.”

Huntington's efforts are a model of collaboration between town leadership, private foundations, and volunteer groups. Its aquaculture initiatives highlight the remarkable outcomes possible when a community unites with a shared vision for a healthier, more sustainable future. With ongoing support and partnership, the town is set to make a significant and enduring impact on Long Island’s waterways and beyond.

Garrett is optimistic about the future of these initiatives. While the challenges of scaling up remain—such as developing methods to convert kelp into a liquid form of fertilizer suitable for golf course application or managing the seasonal demands of the greenhouse—he is confident that Huntington will continue to innovate and lead by example. “Our goal is to encourage other towns to adopt similar models,” he concludes. “Together, we can make a significant impact on our environment.”

## **Get Involved!**

Interested in volunteering or learning more about Huntington's aquaculture projects? Visit the Town of Huntington's [REACH website](#) or the [Department of Maritime Services](#).

---

## **Connect with Us!**

- Want to learn about available and open grant opportunities? Check out the [Funding Finder webpage](#).
- Interested in providing feedback? Reach out to [liwaterquality@dec.ny.gov](mailto:liwaterquality@dec.ny.gov)
- Missed last month's edition? Visit the [LINAP Newsletter Archive](#) to stay up to date!
- Looking to learn more about LINAP? Visit our [webpage](#) and click [here](#) to sign up to receive our monthly newsletter!