Instructions

QUINNIPIAC RIVER FUND GRANT AWARD - FINAL REPORT QUESTIONS

This form is to be completed by all nonprofit organizations that received a grant through the Quinnipiac River Fund.

Grant Details

Grant Details

Organization Name

University of Connecticut - Office of the Vice President for Research Sponsored Program Services

Grant Description

to support assessing the status of oyster beds in the lower Quinnipiac River.

Total Grant Amount

18,500.00

Report Questions

1. List the specific objectives/outcomes of the project and tell how they were met during the grant period. Also, provide an update on any special conditions of the grant (if applicable).

1. To determine the riverbed architecture inside the unworked lot leased by Gather New Haven and the adjacent worked lots to specifically assess the density and shell heights of living and dead oysters and their placement on the bed (loose vs. reef forming clusters growing vertically vs. non-vertical oyster clusters scattered on the riverbed). The assessment will inform how oyster dredging impacts the three-dimensional architecture of oyster habitats. This knowledge will enable future assessments of the functionality of oyster-dominated bottom as a habitat for other species, resiliency against hypoxia, and excessive acidity during the warmest days when these conditions can develop coinciding with oyster larvae and juvenile.

We were unable to conduct this work. We discovered that Gather New Haven did not pay for the lease and did not transfer new name of the organization.

Thus, the proposed work was not permitted. Efforts were shifted towards other portions of the project.

2. Obtain video and still images of the subtidal and intertidal oyster habitat of select locations along the shoreline to enable future comparisons.

A drone operator Jacob Snyder of Red Skies Photography was hired and conducted a survey of the shore of the Quinnipiac River during low tide on September 28th, 2023. Still photos and video were generated from that work. Additionally, Z. Baumann and L. Bonnett had surveyed some of the shoreline from kayaks. The findings point to a higher concentration of reefing oysters in the intertidal zone of the area of the Grand Avenue Swing bridge as well as north of the Q River Grill restaurant in a stretch of a couple hundred meters. Other sections of the riverbank were largely muddy with occasional single oysters. As the section between the bridge and the I-95 is actively farmed, oysters are abundant in subtidal zone due to active efforts made by the farmers who provide cultch for oyster to settle on each year. However, as cultch is not reaching the very shallow intertidal zone along most of the shoreline, new oysters cannot settle there preventing further development of a reef. Only in some sections such as by the bridge or near the Q River Grille some shell may have washed reaching the intertidal zone allowing for wild oyster colonization.

3. Deliver an informational campaign about sewage dumping and risks to the ecosystem and human health to residents, businesses, especially the marinas, and other users of the Quinnipiac River waterfront in Fairhaven. The team will advocate for the sewage pump out boat service in the river section north of the Grand Avenue bridge.

Through inquiries, our group had learned that pump out serves exist at the marina and yacht club in the Quinnipiac River. Baumann prepared and developed an informational flier about these services which is ready for electronic distribution by the members of the New Haven Bioregional Group. The flier contains important information about pump out services, where they can be obtained and the impact it may have on the local ecosystem.

4. Continue performing measurements of coliform bacteria in the Quinnipiac River (seven sites) twice per month between May and October. This information will help determine if illegal sewage dumping continues in the river. Continue performing water measurements with the aid of dataloggers to determine health and viability of the local river ecosystem.

Counts of Enterococcus were monitored by Mr. Harris in 2023 on a bi-weekly basis showing that the river was not contaminated at the times of sampling. Baumann continued monitoring water for temperature, salinity, dissolved oxygen and pH and found high tidally driven fluctuations in all values. Parameters demonstrated water quality that can well support the oyster life in the Quinnipiac River. Oxygen levels were adequate with no signs of persistent hypoxia. A bag of shell deployed at the dock in Fairhaven showed a healthy spat recruitment, which further corroborates the findings that water quality characterizes a high quality of oyster habitat in the Quinnipiac River.

2. Please share your successes, challenges and any lessons learned through the implementation of your project. Were there any unintended consequences or lessons learned that may affect how you operate your program moving forward?

Researching oyster habitat in the Quinnipiac River has been very rewarding as we were able to gather information on qualities of the habitat that favor oyster life. One unexpected constraint was the outdated paperwork for the lease held by Gather New Haven, an organization that has been experiencing administrative transition and not able to address the lease-related business in a timely manner. Additionally, one very positive outcome of this research was that understanding of the Quinnipiac River's ecosystem motivated another investigation on the topic of PFAS pollution in water, fish and oysters. This project was funded by Sea Grant. A research team, of which Baumann is a member, has begun communicating the findings with Sea Grant, and regulatory agencies (CT DEEP, CT DPH), with a peer review publication in preparation. Finding will be also shared with the New Haven public following our consultation with State agencies. PFAS pollution is a hot topic and our team is thus careful in how to share that information.

3. What are the opportunities and needs of your organization as it continues to move forward with its work to positively impact the Quinnipiac River?

As a land- and sea-grant institution, the University of Connecticut continually seeks to serve the state of Connecticut, its residents, and the lands (and water) on which we gather.

With much data collected during the period of two QRF funded projects, Z. Baumann is currently limited in her ability to synthetize this data into a written publication due to the lack of funded time. The work conducted in the Quinnipiac River and Morris Creek begs for a publication to share the parameters of thriving oyster ecosystem in Long Island Sound as these will possibly inform oyster restoration and farming plans in other parts of the Sound. The information gathered may inspire other projects in the future.

Attachments

Financial information (required): Please provide a detailed accounting of how the specific grant dollars were spent based on the budget submitted in the grant application.

Detailed Accounting

Q River Oyster.xlsx

Pictures (optional): Please attach one to three pictures in JPEG format, in the highest resolution possible, of activities that have occurred throughout the grant period as a result of grant funding. By providing pictures, your organization is consenting to unlimited use of the pictures by The Community Foundation for Greater New Haven and/or the Valley Community Foundation in publications in print and online (including www.thequinnipiacriver.com). Please include a description of each photo and, when known, the photographer to be credited.

Picture 1

RSP_NHOysters2023 (3 of 18).jpg

Description and Photo Credit

Picture 2

RSP_NHOysters2023 (4 of 18).jpg

Description and Photo Credit

Picture 3

RSP_NHOysters2023 (16 of 18).jpg

Description and Photo Credit