

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

Quinnipiac University

Grant Description

to support the study of the presence and distribution of pollutants and other water quality parameters along the Quinnipiac River.

Total Grant Amount

18,418.00

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).

Objective #1: Collect and analyze water samples for chemical pollutants via GC-MS and assess pH, temperature, total and fecal coliform from established sampling locations along the Quinnipiac River from Wallingford to North Haven.

- To meet this objective water sampling was conducted on nine separate occasions at thirteen different locations along the Quinnipiac River in Wallingford and North Haven from May to August. Water quality parameters were measured at each location and samples were collected to analyze both total and fecal coliform in the laboratory, as well as assessed via gas chromatography-mass spectrophotometry (GC-MS) for the presence of phthalates, plasticizers, and other known compounds. Throughout this sampling period pH ranged from 7.23-8.79, while temperature ranged from 18.5 -26.8o C. Conductivity within the tidal marsh ranged from 536-1503µS throughout the sampling period, while sites in Wallingford ranged from 424-443µS. There were no remarkable findings via GC-MS during this sampling period, while 90% of the water samples collected within the sampling season exceeded the EPA's value for recreational water for the presence of E.coli. Some additional observations throughout the sampling period, include a large fish death throughout the tidal zone on July 12, 2022 and a drain pipe outflow was running twice during the sampling season.

Objective #2: Communicate findings to the community-at-large. Our results will be disseminated by the Public Relations Department at Quinnipiac University to local newspapers. Additionally, in the past we have presented our findings at several professional scientific venues at both the regional and national levels and will continue to do so as appropriate.

- Quinnipiac's public relations team publicized receiving this grant through their social media and mainstream platforms. Some of the results of this study will be shared with Quinnipiac students around Earth week and these results in combination with previous findings will be used to form the basis for a scientific manuscript and conference presentation.

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?

During this grant period, the laboratory improved on previous sampling methods via GC-MS and streamlined the membrane filtering processing technique for total and fecal coliform. In general, these processes worked well and allowed for samples to be collected for both GC-MS and E.coli, while also collecting necessary water quality parameters with the Hach field probe. There were no unintended consequences that we noted this year.

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?

We need to be able to continuously monitor the river for point source and non-point source pollutants. This will provide us with a comprehensive understanding of chemical components in the river will allow us to work with municipalities or engineers at Quinnipiac to implement best practices to have a positive impact on the Quinnipiac River. Moving forward, we would also like to add seasonal sampling to better understand and tract the source of the E.coli.

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

Quinnipiac University Quinnipiac River Fund 2022 final financial report.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

IMG_2792.JPG

Description and Photo Credit

Two research assistants sampling at the DEEP boat launch in North Haven. (McGinnis photo)

Picture 2

IMG_2797.JPG

Description and Photo Credit

Two research assistants sampling at the Quinnipiac Rive State Park Entrance in North Haven. (McGinnis photo)

Picture 3

Screenshot 2023-03-29 at 12.07.29 PM.png

Description and Photo Credit

Two research assistants preparing to analyzing samples in the laboratory.