1. Groundwater refugia for eelgrass restoration Contract Number (NEPCWG-22-SUNY-PEP) Grant Period (10/1/2024 - 3/31/2025) Restore America's Estuaries

Bradley James Peterson
Stony Brook University

Reporting Period: 10/1/2024 - 3/31/2025
Progress Report #4

2. Project Report Narrative

Summarize the Project activities undertaken during the reporting period within the following headings, building upon the narrative from previous reports, if any.

In October 2024, the seeds that were collected in June and held in a flow through system in the Stony Brook University Southampton Marine Station were assessed for viability via density gravity fall method that excludes non-viable seeds. A small number of seeds retained within the marine station had germinated within the flow through system by October. Volumetric estimation of seeds suggested that the 25,000 reproductive shoots collected in June 2024 yielded ~645,000 viable seeds. These seeds were volumetrically then measured and placed into containers each holding ~ 10,000 seeds. These containers were transported to the groundwater restoration site and broadcast underwater onto the sediment surface in between the eelgrass sods along the restoration transect.

In January 2024, a request was made for a no-cost extension of the project so that the spring final assessment of the restoration site could be conducted. This was granted and preparations were made in March for the drone imagery. The Pix4D software subscription was renewed. The Phantom 4 drone registration with the FAA was renewed and test flights with the pilot and crew were conducted.

2. A. Results & Progress to Date

Describe in sufficient detail the goals of the Project, and the progress and results achieved during the current reporting period, building on the narrative from previous reports, if any. Report accomplishments, setbacks, or delays on specific tasks as described in the scope of work, ***Attachment 1****, as well as any new issues that may have arisen, including: • Progress toward meeting short- and long-term objectives;*

• Activities carried out in this reporting period, including specific techniques and materials used;

• Deliverables or milestones completed or partially completed during the reporting period (if partially completed, describe current status, percentage completion, etc.) • Findings to date or lessons learned during this reporting period;

• Challenges or potential roadblocks to future progress, if any (Note: If you have immediate concerns about the Project, please contact RAE to discuss the issue as soon as possible.)

No remaining tasks were completed during this reporting period.

2.B. Work Remaining Under Current Contract

Describe in sufficient detail the activities remaining and the next steps to be completed under the current contract. Provide an updated timeline of major Project tasks, as applicable.

Eelgrass survival, growth, and germination will be assessed in the replicate planting areas and drone imagery will be captured for these locations in June 2025. In preparation, the drone has been recertified with the FFA, firmware updated and pre-deployment flights accomplished. University vessels and personnel have been scheduled for the final eelgrass assessment (Task 9).

2.C. Compliance

Describe the status of the Quality Assurance Project Plan (QAPP) completion, submittal, and approval. List any permits required for the Project, and their status (e.g., not yet applied for, submitted and under review, approved on [date], etc.).

Task 4 The initial review of the QAPP entitled "Groundwater refugia for eelgrass restoration", was completed by Brian Hulme (EPA) and Phil Colarusso (EPA) on 6/28/2023. The final QAPP was reviewed and approved by Brian Hulme (EPA) and Phil Colarusso (EPA) on 7/20/2023 and all signatures were approved on 8/7/2023.

A NYS Department of Environmental Conservation permit for eelgrass restoration was obtained and the NYDEC Seagrass Coordinator, Della Campbell, was informed of our continued activities at this restoration site.

2.D. Project Partners

- Bradley Peterson (Stony Brook University): maintaining and broadcasting the eelgrass seeds on site.

2.E. Volunteer and Community Involvement

This project engaged two classes at Stony Brook University - MAR305: Experimental Marine Biology student and MAR306: Intro to Scientific Diving students. MAR305

Overview:

- 10/9/2024: 29 volunteers (MAR305), 3 hours = 87 hours
- 10/10/2024: 12 volunteers (MAR306), 4 hours = 48 hours

Total volunteer hours thus far: **840 hours**

2.F. Outreach & Communications

Describe any outreach or educational activities (e.g. training, brochures, videos, press releases, or public events) related to the Project. ***Include PDF copies of press releases, outreach documents, newspaper articles, etc. as described under "Supporting Materials," below.***

Peterson coordinated information dissemination through regional eelgrass restoration workgroups. These resource management groups are seeking potential options for restoring eelgrass in areas that are currently too warm for them to survive in the summer or coming years. These informational sessions presented the status of eelgrass habitat in the region, the importance and value of restoration efforts, and the scope of this project.

- RAE 2024 Coastal and Estuarine Summit: October 6 - 10, 2025
- Town of Nantucket: October 31, 2025
- Zoserapalooza (EPA): March 26, 2025
- Great Harbor Yacht Club, Nantucket: March 28, 2025

3. Project Budget Report

The budget report must provide sufficient information and detail to explain Project expenses, for the reporting period and cumulative through the reporting period, including match, in the

*context of the objectives, tasks, and categories provided in the Project narrative and budget under **Attachment 1**. The budget report should be organized so that a reviewer can easily judge whether expenditures to date for the Project are tracking well with progress toward objectives and, if not, to understand why.*

3. A. Summary Budget Tables

Summary Budget Table 1: Expenditures by Federal Cost Category

Budget Category	Total Approved Budgeted Funds	Total Approved Budgeted Match	Grant Funds Expended this Period	Grant Funds Expended Cumulative	Match Funds Expended This Period	Match Funds Expended Cumulative	Match Source (note cash or inkind)
Personnel	$ 55,020	$ 20,847	$ 3,246	$ 3,246	$ 4,524	$ 4,524	$ 7,770
Fringe	$ 7,153	$ 13,284	$ 422	$ 422	$ 2,893	$ 2,893	$ 3,315
Travel	$ 2,384	$ -					$ -
Equipment	$ -						$ -
Supplies	$ 18,500						$ -
Contractual	$ 120,000	$ 39,603					$ -
Other	$ 14,752						$ -
Total Direct	$ 217,809	$ 73,734					$ -
Indirect	$ 31,930	$ 8,874	$ 954	$ 954	$ 1,928	$ 1,928	$ 2,882
Total	$ 249,739	$ 82,608					$ -

3.B. Budget Narrative

During this reporting period, salary and fringe were expended for the SBU graduate student as per the original proposal. Invoices for SBU university boat time and SBU Southampton marine station wet lab space use for this period have not been received or reflected in this budget summary but will be included in the following reporting period.

4. Supporting Materials

Include high-resolution digital images of supporting materials related to the Project, including:

• Project maps and drawings;
• Technical memoranda, data analyses and modeling reports;
• Project photographs, including photos depicting implementation sites before, during, and after implementation; photos of Project signs, etc.;
• Press releases, news articles, brochures, educational curricula, etc.
Where file sizes allow, include all supporting materials in the same, single PDF document as the progress report. In the event that file sizes for supporting materials are too large to include in a single PDF of the report, contact RAE to set up a shared online approach.

No supporting Materials

5. Certification

The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.

Grantee Signature:



Name: Bradley J. Peterson
Job Title: Professor of Marine Science
Date: 6/12/2025
Organization: Stony Brook University