PPBEP COMMUNITY GRANT FINAL REPORT FORM

Agreement No.:	FY2023-24		
Grantee Name:	Santa Rosa County School District		
Grantee Address:	8638 Blue Heron Ct. Navarre Beach, FL 32566		
Grantee's Representative:	Charlene Mauro	**Telephone No.:**	850-449-4295
Project Title:	Hope on A Half Shell: Empowering the Next Generation of Oyster Stewards		
Please submit any high-resolution photos related to the project, if available (include photo credit for use by PPBEP for use in our e-newsletter, annual report, social media, or website)			

1. **<u>RESULTS:</u> Describe the progress made toward the goals and objectives as stated in the funded grant application.**

2. **<u>IMPACT:</u> Summarize the organization's key evaluation results related to the funded grant (number of people reached, samples taken, etc.):**

3. **<u>SUCCESSES AND CHALLENGES:</u> Describe the significant successes and challenges the organization experienced related to the funded grant.**

4. **<u>LESSONS LEARNED:</u> Describe what the organization learned based upon the results, successes, and challenges reported. Address programmatic, evaluative, or organizational changes that will be made based upon these lessons learned.**

This report is submitted in accordance with the reporting requirements of Agreement No. FY2023-02 and accurately reflects the activities associated with the project.

Charlene Mauro

Signature of Grantee's Representative

6/13/2024

Date

Charlene Mauro, Director, Navarre Beach Science Station

Print Name and Title

PPBEP COMMUNITY GRANT FINAL REPORT FORM

1. **<u>RESULTS:</u> Describe the progress made toward the goals and objectives as stated in the funded grant application.**

Summary

Our primary objectives for the PPBEP Community grant period were that students would:

- Learn about factors that impact water quality in a watershed.
- Implement oyster spat monitoring.
- Teach younger students.
- Learn to use equipment, follow protocols, and input data.
- Communicate their findings to a larger audience.

Throughout the school year, students continued to meet these objectives as outlined in the five tasks below.

PROJECT TIMELINE:

Task/Deliverable	Start Date	End Date	Deliverable Due Date
Task 1: Project Pre-Test	October, 2023	October 31, 2023	November 5, 2023
Task 2: Bi-weekly sampling at 6 target sites	Nov, 2023	May, 2024	May 20, 2024
Task 3: Project integration visiting school groups	October, 2023	May, 2024	May 20, 2024
Task 4: Students present to key stakeholders	May 2024	May, 2024	May 31, 2024
Task 5: Project Post-Test & Evaluation	May, 2023	May, 2024	June 15, 2024

<u>Task 1:</u> Project Pre – Test interest Survey: 40% completed

Task 1 Description: Survey 375 high school students to assess their general knowledge of water quality.

Task 1 Deliverables: Pre – Test Results

As of the end of the fall semester, a total of 151 students completed the pre-test. Students from Gulf Breeze High School, Pace High School, and Navarre High School took the pre-test. The pre-test did not designate which school each student is from. In the original scope of work, 375 students were scheduled to participate. There are fewer students participating in the project

because of logistical challenges (fewer students able to visit sites), class enrollment (fewer sections of Marine Science II) and time restraints.
Deliverable: 40% (total number of students participating has reduced)
(Attachment 1: Pre-Test Results)

Task 2: Bi – Weekly Sampling/ Spat Monitoring at 4 target sites

Task 2 Description: Students will record data such as dissolved oxygen and key nutrient concentrations at 4 sites. In addition, students will monitor spat growth rates.

Task 2 Deliverables: Data Sheets # of data collection activities and analyses conducted.

Task 2 Performance Measure: 100% collected data will be submitted for database.

Over the course of the project, water quality samples were taken a total of seventy times at 6 sampling sites throughout Santa Rosa County, from October 2023 to May 2024. Students at Pace High School students took 6 days of samples at the Florida Town site. Gulf Breeze High School sampled Shoreline Park a total of four times. Students at the Navarre Beach Marine Science Station (NHS) had four sites and collected data a total of 16 days. As of May 2024, only NBMSS has set out oysters to monitor. Students deployed oysters at 2 sites and recorded data beginning in December and counted spat every month.
A major goal of this task was to establish a water quality and oyster spat data baseline to include nutrient data for three sites in Santa Rosa County. Students learned how to perform various water quality tests such as nutrients and bacteria. Instead of hosting data with GCOOS, we will be using the new Santa Rosa County Water Quality Data Portal. We have been working with SRC GIS specialists to create specific sites in this project to store data. This will eliminate the middleman to input data and students will learn about GIS as part of the project.

Attachment 2: Pace High School Data Collection Sheet
Attachment 3: Pace High School Data
Attachment 4: NBMSS Data Collection Sheet
Attachment 5: NBMSS Data
Attachment 6: NBMSS Spat Data

Deliverable (% Completed and details): 70% complete.

Identify any delays or problems encountered:
Teachers had challenges getting to the students to the sites during the school day. In addition, much of the equipment did not arrive until December.

Task 3: Hope on a Half Shell project integrated into visiting school group programs to the NBMMSS

Task 3 Description: Students lead (1) field trip visit per week at NBMSS to include oyster education and watershed awareness.

Task 3 Deliverables: Curriculum integrating PPBEP CMP & School Group Schedule

Task 3 Performance Measure: 1000 area students will attend a program on-site to include a watershed awareness component.

Two stations relating to our grant are part of the field trips to the NBMSS, *Oyster Diversity Lab* and *Oyster Settlement Cornhole.* Please see the attached lesson plans for curriculum details. In addition, new activities were integrated into the high school classes. The students enrolled in the marine science program lead these field trips as part of the NBMSS' "learn, do, teach" model.

Throughout the grant period, approximately **1624** students attended field trips at NBMSS and learned about oysters and water quality. We superseded our goal as we had initially anticipated reaching 1,000 students.

Attachment 7: NBMSS school group participants
Attachment 8: Lessons integrated into school groups and in high school classes.

Deliverable (% Completed and details): 100% complete.

Task 4: Student Presentations

Task 4 Description: Students will attend (1) outreach event or symposium and present their findings to the Santa Rosa County Board of County Commissioners.

Task 4 Deliverables: Agenda and outline of key talking points for presentation.

One of our goals during the grant period was for students to increase their ability to effectively communicate scientific information to a broader audience. To facilitate this, we had guest lecturers in the scientific field give presentations to the students on not only their area of expertise, but effective scientific communication.

Unfortunately, we did not have enough data to support a presentation at the Board of County Commissioners. In addition, logistics did not allow for participating teachers and students to miss school and travel.
With the establishment of the Santa Rosa County database, we anticipate a presentation in the next school year.

However, upon receiving the equipment, our student team created a presentation outlining importance of water quality monitoring and protocols.

Task 5: Project Post-Test & Evaluation

Task 5 Description: Survey 375 students to assess their general knowledge of water quality.

Task 5 Deliverables: Test Results, Student Reflections

Task 5 Performance Measure: Students will show a 15% gain in knowledge related to water quality data collection and the importance of protecting local estuarine environments.

At the end of the school year, a total of 139 students completed the post-test. Students from Gulf Breeze High School, Pace High School, and Navarre High School took the post-test. The post-test did not designate which school each student is from. In the original scope of work, 375 students were scheduled to participate. There are fewer students participating in the project because of logistical challenges (fewer students able to visit sites), class enrollment (fewer sections of Marine Science II) and time restraints.

We saw a 47% increase in student knowledge, which surpassed our 15% increase goal.

Attachment #9: Post-Test Results

2. **IMPACT: Summarize the organization's key evaluation results related to the funded grant (number of people reached, samples taken, etc.):**

Participant Output Tables:

Student Audiences

Project Totals

Audience	Cumulative number of individuals reached for entire project period
3-7 Grade Students	1624
Marine Science HS Students	150

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3. **SUCCESSES AND CHALLENGES: Describe the significant successes and challenges the organization experienced related to the funded grant.**

SUCCESSES

One outcome we did not set a goal for or formally evaluate was our students' hours of stewardship with Hope on a Half Shell. Students from three high schools have put in approximately 820 hours toward collecting data, outreach events, and data management.

We anticipate that as our oyster project continues to expand, students will continue to provide meaningful scientific data on Santa Rosa Sound to the local community. Students will give further presentations to the Santa Rosa School Board as well as the Board of County Commissioners on their new findings as they collect new data. We hope that through the effort of high school students, environmental policy for Santa Rosa Sound will include additional scientific data collected and provide to the community.

CHALLENGES

The main challenges we had with this project was logistics. It was difficult for PHS and GBHS to obtain subs and costs associated with the project. The nutrient equipment did not arrive until December, and our students had to quickly teach themselves and their teachers.
Because of the lack of data, we were not able to present to the Board of County Commissioners. We plan to present our findings next year. Thankfully, PPBEP was understanding.

4. **<u>LESSONS LEARNED:</u> Describe what the organization learned based upon the results, successes, and challenges reported. Address programmatic, evaluative, or organizational changes that will be made based upon these lessons learned.**

The PPBEP Community Grant has provided many students, both in elementary school and high school, the chance to learn more about their local watershed and get hands-on experience with oyster spat monitoring and water testing equipment. As the grant ends, the programs it created will continue in a modified format.

Students from PHS, GBHS, and NBMSS will continue monthly water quality testing of various local sites. With the new Santa Rosa County Water Quality Portal, we will be part of a larger database of water quality testing for Santa Rosa Sound that is available for public usage at any time. The high school students will also continue to gain hands-on experience with data collection and analysis. This project has inspired students to pursue their own avenues of research using the equipment provided by the PPBEP grant. We firmly believe that future students will continue this pattern of exploration through research as our program continues. As these same students gain confidence in their knowledge of water quality, they become voices in the community, speaking up for the marine environment in Santa Rosa Sound. They want to share what they have learned through educational public classes and through public forums, such as county commissioners.