

FINAL REPORT
for the HEP Mini-grant Program
From Sea to Seining Sea
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✓**CHECKLIST** – Your final report must include the following:

- Summary – include number of people reached/involved, total cost (HEP funds plus match), partnerships created, number of publications produced, etc.

Four professors were involved in the program, who were paid \$500 each for their time. A matching cost would be their salaries, as each put in more time than the two days allotted for this salary, including prep time, and working with the students afterward. These professors were:

Kathleen Nolan, Ph.D. and Allen Burdowski, Ph.D. from the St. Francis College Biology Department, and Marilyn Verna, Ed. D and Richard Giaquinto, Ph.D. from the Education Department.

The students involved included eight students from the St. Francis College education department, and eight science majors. The eight science majors were donating their time to the two day program as a part of their community service requirement of 15 hours a semester. The college provided all equipment such as microscopes for fish scale analysis, dissection tools and trays, and computers for on-line searches and Vernier demonstrations. Coincidentally, a Brooklyn College science education master's degree student, Linda Aponte, found out about the program by typing "estuary" as a search word on the Internet, and she became an additional participant. She introduced us to the Gowanus Dredgers, a canoe club on the Gowanus canal and I (Kathleen Nolan) and a new participant, Jill Callahan, went canoeing on the Gowanus Canal with Ms. Aponte. We have thus established a partnership with the Gowanus Dredgers, that we would like to continue to develop with future proposals.

Another major cost of the program was the three boat rides provided by the grant on the Schooner Pioneer. The three-hour education sail we took the students on cost \$850. Three shorter (90 minute) sails were provided for two second grade classes at the Community Charter School in Brooklyn, and for one group of NYC high school students (twenty) in the summer as part of the St. Francis College Summer Science Academy.

We have partnerships now with the Community Charter School in Brooklyn, and over twenty high schools that have sent students to our Summer Science Academy where they have learned about the estuary.

We also have (or are developing) partnerships with the Schooner Pioneer, The River Project, the Salt Marsh Nature Center and the New York Park Rangers, the Beczak Environmental Education Center, the Staten Island Institute of Science, the American Museum of Natural History, and many colleges and community colleges.

We made one PowerPoint presentation about the program at the New York University Sharing Our Success program for math and science teachers in May, 2005, and have mentioned it (and shown a few slides) mentioning the grant) in two other presentations:

October 7, 2005 at the Beczak Environmental Education Center titled: "What Do We Know about Fishes in the Hudson River?" by Kathleen Nolan and

January 11, 2006 at St. Francis College titled "Grant Writing" by Claire McCurdy and Kathleen Nolan

Marilyn Verna will be presenting the work in April (2006) at an Education Conference in San Francisco.

We have submitted a nine- page paper to the Pedagogical Journal published by the New York University School of Education.

Kathleen Nolan has submitted another paper "From Sea to Seining Sea" which will be published in the next issue of "The Underwater Naturalist" a publication of the American Littoral Society. We would like to develop a partnership with them.

Another important thing to note is that grant has dove tailed very nicely with two grants:

- a. the St. Francis College Faculty Research Grant (\$1500) to study the Gowanus Canal, and
- b. The Undergraduate Mentoring in Environmental Biology (UMEB) program funded by the National Science Foundation has provided students and some of the lab materials. This grant is a collaboration among St. Francis College, Medgar Evers College and the American Museum of Natural History.

Goals Reached – assess the success of meeting each of the goals in your original proposal

Our ultimate goal, promoting stewardship of the estuary was reached. Students learned vocabulary associated with the estuary, and then, through two actual field experience, seining, and otter trawling on the Schooner Pioneer, they learned about the estuary. Because of the grant money, two classes of second graders were also able to learn about the estuary, along with a group of high school students through three additional Schooner Pioneer education sails.

Highlights – were there any unexpected outcomes

Students that were squeamish about fish, and other aquatic life, really got into the seining and the measurement of the fish and shrimp we found. I think they were truly amazed with the whole experience.

The students came up with additional classroom activities such as designing a cardboard schooner, and writing vocabulary words on the sails.

Problems – did you encounter any problems in carrying out your project and how did you resolve them

There weren't any major problems. We were actually blessed with good weather for the two Saturday workshops. We could see that weather could hamper this, and discourage teachers from planning this and then having to cancel for weather. We ran out of time and would like to have conducted even more

activities. We had to do a demo with the Vernier equipment, rather than having everyone use it.

We probably also need to provide information about the government bodies and laws that have been designed to protect the estuaries, and also should develop an awareness of who to contact if the estuaries are being violated.

Results of Evaluation – include a copy of any evaluation forms; explain methods; indicate whether your evaluation was adequate; identify follow-up (if necessary)

We gave the students a “test” at the beginning to see if they could define words such as: marine, aquatic, estuary, tide, pH, dissolved oxygen, anoxic, cormorant, salt marsh, harbor, river, quahog, parts of a fish, ichthyology, and stewardship. They were familiar with some of the words, (the science students knew more than the non-science majors) but only two knew the material with any depth—i.e. Most knew that tides were the movement of water up and down a beach, but only two knew they were caused by gravitational pull of the earth. Only a few had seen the Hudson River (these are Brooklynites!) and only three had visited the Salt Marsh Nature Project.

I did e-mail the teacher of the Community Partnership School, but she did not get back to me; I could continue to pursue that connection. It's difficult time-wise to follow up on all the students to see if they are applying this in the classroom----I actually wrote another grant to the Hudson River Foundation to pay me for my time in an attempt to develop more tests and materials for teachers, but did not receive this.

Did HEP Staff participate in the project?

Laura acted as a consultant, and sent us a book and some posters with activities and information that was very useful.

Attach any photo documentation, press articles, or websites related to the project. (Photos will be sent separately)

~ DEADLINES ~

Project Complete

May 31, 2005

Final Report

June 30, 2005