

Hudson River Estuary Teacher Education Program



Summer 2007



Wallerstein Collaborative for Urban Environmental Education
Steinhardt School of Culture Education and Human Development
New York University

This program was made possible with support from the NYC Environmental Fund

Project Title: 2007 Hudson River Estuary Teacher Education Project

Final Report: November 2008

Introduction

With four years of continuous support from the NYC Environmental Fund, the NYU Wallerstein Collaborative has established a field-based environmental professional development program resulting in a network of teachers now firmly committed to environmental education. This initiative has enabled us to reach out to fifty-four teachers in forty-two schools over the past four years. As a result, thousands of school children are now the beneficiaries of environmental programs and projects in their schools. Many of the teachers who completed our summer program continue to avail themselves of our programs and workshops and serve as mentors for other teachers and leaders in their schools, thus engaging an even larger group of teachers in environmental education.

In the summer of 2007, our cohort was comprised of fifteen teachers in thirteen new schools. However, we had over 25 applicants and 42 inquiries about the program. Our program consisted of field trips, workshops, and seminars which have proven to be an excellent combination for the professional development of teachers with respect to environmental education. Funding from NYCEF these past four years has afforded us the opportunity to develop a professional development program for teachers steeped in field-based learning experiences that would not be possible otherwise. The long-term commitment of our teachers and their high level of participation along with the variety of curricula they have developed to expose their students to environmental education leads us to believe that this is a professional development formula that works and we will continue to employ in our future work with teachers.

Monitoring Activities and Collaboration with NYS Department of Environmental Conservation

While there have been many outcomes, one of the most visible results of our summer program has been the success of getting teachers involved in “Snapshot Day,” which is the NYS DEC program designed to help teachers, students, and citizen scientists collect data on the Hudson River. We have incorporated monitoring activities in our summer program, thereby providing teachers with both content knowledge and pedagogical skills to use outdoor education activities effectively with their students.

Snap Shot Day is coordinated by [The Hudson River Estuary Program](#) of New York State Department of Environmental Conservation (DEC) and [Hudson Basin River Watch](#). Water quality testing is performed by school groups up and down the Hudson River from Troy to the New York Harbor. The data is then used to create a picture of ‘a day-in-the-life’ of the Hudson River Estuary. This data collection day is designed to celebrate the Hudson River Estuary and educate participants on the uniqueness of our estuary as part of the annual recognition of “National Estuaries Week.”

In October 2007, we had our best turnout for Snapshot Day yet. Twenty of our Hudson River teachers from eleven different schools participated in Snapshot Day (Table 1). In all, over 400 students were involved as a direct result of our summer program and training. In 2007, the number of students participating almost doubled from the year before. Our teachers were situated up and down the Hudson at six different sites ranging from Pier 84 to South Street Seaport and as far south as the Verrazano Bridge.

Hudson River Teacher Participation on Snap Shot Day 2007

School	Number of Teachers	Number of Students	Testing Site
Bayard Rustin	1	10	Pier 45
Calhoun School	1	23	Pier 45
IS 174	1	30	Pier 45
IS 227	1	25	Pier 45
MS 142	2	30	Pier 45
PS 3	6	156	Pier 45
PS /MS 189	1	31	Pier 84
PS/IS 311	1	25	South Street Seaport
Trevor Day School	4	56	Pier 40
University Neighborhood High School	1	20	Lower East Side Ecology Center
Fort Hamilton High School	1	5	Verrazano Bridge
Total	20	411	

Since 2004, we have been able to involve our Hudson River teachers and their students in this program. Each teacher brings their class to a site along the estuary and takes part in data collection. The parameters that are typically focused on include salinity, turbidity, ph, dissolved oxygen and temperature of the air and water. Students are also asked to take note of the physical characteristics of the area--what types of wildlife they may encounter, what the shoreline looks like, and what types of boats or barges they see. This data is then sent to the Hudson River Estuary Program, where it is compiled and posted

on the New York State DEC website. For more information see [A Day in the Life of the Hudson River](#).

Wallerstein staff work with the New York City Soil and Water Conservation District and graduate students from NYU's Environmental Conservation Education Program to set up and facilitate data collection stations at Pier 45. In 2007, we had the opportunity to work with six different schools, twelve teachers and over two hundred and fifty students. The "stations" model enabled students to collect data on temperature, salinity, turbidity, ph, dissolved oxygen and observations of their testing site. As a result, we have created station materials including a 'how to' for each test and visual aids to assist in explaining each concept. As noted in Table 1, several of our teachers were able to participate in Snapshot Day at other locations on their own or in partnership with other organizations.

Field Trips and Workshops and Presentations

During the 2007-2008 academic year, many of our Hudson River teachers participated in our programs, workshops, and conferences and they integrated field experiences into their curriculum for their students. A small amount of our NYCEF funding was used to support field trips for a limited number of schools as noted below.

June 2007

A trip to the Cary Institute of Ecosystem Studies was taken by Jackie Augustine, one of our Hudson River teachers (Summer '05) from University Neighborhood High School sponsored jointly by the Wallerstein Collaborative and the Cary Institute.

January 2008

Twenty-five teachers attended a workshop entitled "Environmental literacy in the schools: How does human intervention affect the health of ecosystems?" presented by Dr. Janice Koch, Hofstra University and Dr. Yael Wyner, Hunter High School.

May 2008

The Wallerstein Collaborative sponsored a field trip to Black Rock Forest for Jessica Harvey (Summer '05) and her K-1 class from P.S. 3.

Working with our collaborators from NYC Audubon we were also able to arrange for an Audubon Eco-Tour for a class of high school students from Manhattan Night and Day High School and their teacher, Mark Testa (Summer '08)

July 2008

In the summer of 2008, we offered teachers three discreet workshops/field trips which are typically part of our summer program. The sessions were facilitated by Mark Testa, a NYC High School Science teacher assisting us with strategies to incorporate our work more fully into the Living Environments High School Curriculum. Twenty-five teachers participated in the summer sessions which included an Audubon Eco-Tour, Snap Shot Day training, and a trip to NYSunworks' Science Barge.

October 2008

In the fall we offered a series of after-school workshops on Hudson River Ecology in collaboration with the Cary Institute of Ecosystem Studies. These workshops, presented by Cornelia Harris, served as enrichment for our returning teachers, and newcomers were introduced to our methods and philosophy of environmental education.

In October, Amy Finegold, (Summer '07) presented a paper at the sixth international conference of the Asociación Nacional Universitaria de Profesores de Inglés, A.C. (ANUPI) to be held in Puerto Vallarta, Mexico entitled "An Environmental Study with English Language Learners," which she developed as a result of her experience as an NYU Hudson River Teacher.

November 2008

Mary Leou, program director, presented a paper on "Using the Hudson River as a context for Professional Development" at the School Science and Mathematics Association's (SSMA) National Convention held in North Carolina, November 13-15, 2008.

Going Forward

This past year gave us the opportunity to take stock in what we have accomplished, develop an ongoing framework to support the teachers who have completed the program, and plan the summer program for 2009 which will tie into the Hudson River Quadricentennial celebration.

Our next phase will involve refining and developing our lesson plan databank comprised of lessons developed over time with our staff and teacher participants. We will house this lesson plan databank on our website and share with teachers and the education community.

In addition we will continue to track and connect to our network of teachers who have gone on to do some remarkable work as a result of their experience with us. The teachers in our network continue to reach out to teachers in their schools and have become involved in environmental initiatives beyond the classroom and into the greater community. One of our participants, Damian Griffith (Summer '07), formerly a classroom teacher, is now the Director of Education with the Bronx River Alliance. He serves as a beacon for even more teachers and students to access our waterfront heritage. Christina Trowbridge (Summer '04), recently served as an education consultant to the *Water: H₂O=Life* exhibit at the American Museum of Natural History. Susan Soler (Summer '04), received a Fulbright to travel to Japan where she shared her river curriculum with teachers in Japan.

Through our continuously developing network, our teachers have created far greater connections and have reached more teachers and students than we ever imagined would be possible. We also hear from new schools and teachers who have a need for support in terms of curriculum and professional development. PS 50, an NYU partnership school, in East Harlem, has begun studying the Hudson River and has invited us to collaborate with them in professional development and curriculum initiatives.

We are actively seeking funding to continue our summer program as well as expand our year-round programs and service to the schools. Our vision is to fund a team of environmental education interns from NYU to provide support and work with classroom teachers throughout the year.

Outcomes

This program has established us as an environmental education resource for teachers and we have forged long-term connections with teachers and schools.

The program has opened up pathways to environmental education for dozens of teachers in the New York metropolitan area and as a result, thousands of New York City children have been given the opportunity to learn about and explore the Hudson River Estuary.

The program has provided invaluable opportunities for NYU graduate students in the Environmental Conservation Education Program and pre-service teachers in the Department of Teaching and Learning, to participate in environmental education by working with Hudson River teachers.

NYU student teachers now placed with Hudson River Teachers are exposed to environmental curricula and field-based learning activities as part of their pre-service teacher preparation.

We have also created *The Hudson River Teacher's Resource Guide* currently available through the Wallerstein website.

Teacher participants have presented their work in professional development workshops and conferences.

The Hudson River Summer Program For Teachers serves as a professional development model for other colleges and universities.

Hudson River Summer Program For Teachers

Summer 2007



Learning about invertebrates on the Clearwater



Learning about solar energy on the Science Barge



Ecotour with the NYC Audubon



Watershed activities on the Clearwater



Sailing up the Hudson River



Testing the pH on the Clearwater Sloop