

Boston Harbor Educators Conference

Boston Harbor: Stewardship of an Ever-Changing Resource



Date: Saturday, October 2, 2004
Place: University of Massachusetts at Boston
(New Campus Center)

Sponsoring Organizations

Massachusetts Marine Educators
New England Aquarium
Hull Lifesaving Museum
University of Massachusetts/Boston
Boston Harbor Islands National Park Area
Massachusetts Water Resources Authority

Program Committee

Joe Balsama
Kathie Callahan
Peg Collins
Carl Johnson
Ed McCabe
Chris Ratley
Victoria Stevens
David Weinstein

Russ Bowles
Mary Corcoran
Kelly Fellner
Douglas Maitland
Lory Newmyer
Bobby Robinson
Chris Sweeney
Pauline Westhaver

Gail Brookings
Bob Chen
Marge Inness
Duncan Maitland
Sukey Padawer
Joel Rubin
Meg Tabacsko

Keynote Speaker
Richard Wheeler, Cape Cod Museum of Natural History

Time Schedule for the Day



8:30-9:00	Registration- Coffee
9:00-9:05	Welcoming Remarks
9:05-9:35	Keynote Speaker
9:35-9:50	Break
9:50-10:50	Workshop I
10:50-11:00	Break
11:05-12:05	Workshop II
	or
9:50-12:05	Double Session
12:10-1:30	Lunch, Exhibits and Share-a- Thon
1:30-4:30	Field Trips
	or
1:35-2:35	Workshop III
2:40-3:40	Workshop IV
4:00-4:30	Closing-PDP's and Evaluations*

**To be completed in the field by those on trips*



Workshop and Field Trips October 2, 2004

Single Session Workshops

P= Pre-school **E**=Elementary
M=Middle School **H**=High School
N=Naturalists and informal educators.

Session I

Classroom Climate Connections M H N

Presenter: Pat Harcourt- Waquoit Bay National Estuarine Research Reserve

Conference Room A

Climate change is already impacting Massachusetts coasts. This workshop will try out some ways students can make observations related to local impacts of climate change. Participants will also work with data available on the internet that can help students understand regional and global climate change.

Linking Science and Literacy E M

Presenters: Amika Kemmler-Ernst & Cynthia Terry-Edd
Manning Elementary School

Ballroom A

Learn about a collaborative research project done by first and fourth grade students at the Manning Elementary School in Boston. Each research team became “experts” on an aquarium animal through a variety of observations, drawing, reading, and writing activities. This workshop will include a resource packet and hands-on activity.

Biology/Ecology High School Research Studies on Grape Island H N

Presenter: Donald Bockler- Arlington High School

Room 2215

For over fifteen years Arlington High School students have spent four days each October studying the unique and changing environments on Grape Island. The main research involves identifying plants, animals, and abiotic factors along transects from mid-tide into the shrub forest. This is a wonderful example of partnership between the Boston Harbor Island Park Service and public schools.

The Classroom Estuary M H N

Presenter: John Halloran and Students-Nock Middle School

Room 1110

Students construct and maintain an indoor estuary to replicate the hydrology of the Merrimack River. The model serves to introduce ocean, river, and salt marsh ecosystems while allowing observations of the interactions among them.

Conduct Field Research in your Classroom All

Presenter: Phoebe Morad - Earthwatch Institute

Room 21—

Earthwatch Institute sends hundreds of teachers into the field to work with conservation researchers. Those educators return with enhanced scientific skills, great stories to share and inspirations for unique lesson plans. Learn about these opportunities, collect curriculum ideas, and find out what new scientific discoveries are being made around the world.



The Bayonets of the Garrison M H

Presenter: Chris Benedetto, BOHA Park Ranger

Room 2107

On November 1, 1861, Josiah H. Gordon, a member of the Maryland Legislature, entered the confines of Fort Warren on Georges Island as a political prisoner for six months. During this time he wrote dozens of letters to his family which serve as a window into that time and life and which still raise profound questions about civil liberties and the role of the government. This program will explore Josiah Gordon's life and show teachers how to utilize his letters and other historic documents effectively.

Ocean Scientists “Tell Their Story” for the Classroom Audience All

Presenters: WHOI Research Scientists

Alumni Room

Most scientists are accustomed to presenting their research to colleagues or lecturing to graduate students. But how to effectively communicate science research to a younger (elementary- 12th grade) audience? As part of an innovative NE-COSEE (New England Center for Ocean Sciences Education Excellence) project, a select group of Woods Hole scientists have been recently trained to “tell their stories” more effectively for the classroom. Ocean scientists from WHOI will present about their research in an engaging format, followed by your feedback to help scientists improve their presentation skills for the school classroom. Networking and classroom visit opportunities will be discussed. Learn about ocean science research while participating in an innovative collaboration with the research science community!

Session II

Headstarting of an Endangered Species- Terrapin Turtles All

Presenter: Carleton Johnson
Odyssey High School

Ballroom A

This session is intended to exhibit simple methods in the nurturing of an endangered species (*Malaclemys terrapin terrapin*) in the classroom. This is a cooperative effort among Odyssey High School, Barnstable High School, and Boston College. These turtles (the only brackish water turtles in the U.S.) are monitored from nesting to hatching. This session will show by power point the monitoring, collecting, and nurturing in a typical classroom setting.



Unearthing the Secrets of the Harbor Islands: Boston Harbor, Archaeology and History in the Classroom All

Presenter: Anne Eliza Lewis- Massachusetts Archives

Room 1110

Learn how to incorporate archaeology into your science and history classrooms. Learn about the changes of the islands throughout history and discoveries made on the islands. Attendees will receive lesson ideas and other resources.

Boston Waterfront Learning Project: Manageable, Memorable Field Site Visits E M

Presenters: Dottie Merrill, Ewa Goodman, et al. Children's Museum

Room 2215

Boston Public School teachers and Children's Museum staff share their Trip Guides to Boston waterfront and island sites developed to introduce children to the pleasure and responsibilities of the Harbor. Guides are designed to meet curriculum needs in science, history, and literacy in Grades 3-8.

Developing Interactive Education Materials in the Classroom P E M

Presenter: Jayshree Oberoi- New England Aquarium

Conference Room A

This workshop will present some education materials, specifically the jellies Kit (with emphasis on local species of jellies) and will describe the fabrication process of these materials and discuss the possibility of making such and more materials in the classroom. It is a challenge to

make student friendly materials that are engaging as well as rich in content. Participants will discover their abilities and learn about making excellent hands-on activities.

Cape Cod National Seashore Aerial Photo



(Cape Cod National Seashore Aerial Photo)

understand change in the health of coastal ecosystems. The curriculum content was designed by Cape Cod teachers working with National Park Service researchers, NASA, John Pickle -Global System Scientist (Boston Museum of Science) and the Massachusetts Marine Educators to ensure scientific accuracy, and that Massachusetts Learning Standards are addressed. The project is now in the second year of its three year development schedule. Teachers interested in using remote sensing, doing field work at beaches/dunes, salt marshes/estuaries, vernal pools/ponds are encouraged to join us at the workshop session to learn how to assist us in field testing the curriculum in year three of the project. Curriculum materials are designed so that background material and field data collection protocols are transferable to other geographic coastal locations.

Sensing Cape Cod M H

Presenters: Barbara Dougan, NPS, Cape Cod National Seashore

Marge Inness and Gail Brookings, M.M.E.

Gwen Shipley (Cybertracker)

Room 2107

The Cape Cod National Seashore has been developing a new curriculum, "Sensing Cape Cod." which involves students doing authentic research that coordinates with park research. The purpose of this project is to provide classroom and field activities for students to measure and

Double Session Workshops

The Hub and Its Spokes: Boston's Port and the Reach of Commerce All

Presenter: Dr. Mary Malloy- Sea Education Association

Conference Room B

Maritime commerce began to influence the development of Boston Harbor during the colonial period. Trade underpinned the technological developments, immigration altered the social fabric of the community, and the natural environment felt the impact of all these factors. In this workshop Dr. Mary Malloy will introduce the maritime history in the first hour and source materials that teachers can use to develop curricula in the second hour.

Tidepools in the Classroom? Of Course!! E N

Presenters: Leah Jordan & Deborah Bookis

Merriam School- Acton

Room 4215

In this workshop you will learn how to bring a successful habitat into your classroom. Participants will learn how to set up and maintain a saltwater habitat, including information on where to obtain the organisms. You will explore hands-on integrated curriculum that will meet your school's science goals.

Water Quality Testing M H

Presenter: Meg Tabacsko-MWRA

Room 3215

The MWRA's Water Quality Testing Kit contains all the equipment needed to conduct eight surface water tests including temperature, pH, dissolved oxygen, biochemical oxygen demand, turbidity, total dissolved solids, nitrates, and total coliform bacteria. Learn how to set up a water quality testing program with your students. This is a hands-on workshop and all participants will receive a water quality manual.

Observing the Ocean through Satellites, Buoys, and Boats M H N

Presenters: Amy Cline- UNH and Tom Shyka-COAA

Room 2115

This session will provide educators with an overview of the Gulf of Maine Ocean Observing System (GoMOOS) and the UNH Center of Excellence for Coastal Ocean Observation and Analysis (COOA). These organizations will explain how they collect and analyze information about the ocean. Educators will learn how to access and use real-time and archived satellite, buoy, and ship data. Curriculum materials demonstrated in the workshop will be available for use in the classroom.



Using Digital Images for Scientific Measurement

M H

Presenter: John Pickle- Museum of Science

MAC Lab Library

Part I of this hands-on workshop will be used to explore how to make length, area, and color measurements of plants and other slow-moving living organisms. The measurements may be used to study growth, environmental stress, and a variety of other scientific and not so scientific applications. Part II of

the workshop will be using maps, color-coded graphics, aerial photographs, and satellite imagery to make measurements of changing environmental conditions. All participants will receive a CD of the image analysis software.

Single/Double on the Water Workshops

Exploring the Real Thing All

Presenters: Curtis White and Amy Curry-Saugus Iron Works

The Saugus Iron Works National Historic Site will have the site's twenty-five foot workboat "Alewife" as a floating exhibit to introduce educators to the curriculum-based programs, materials, and services available through the National Park Service in Massachusetts and Virginia.

We're All in the Same Boat! M H

Presenters: Ed McCabe and Beth Howard
Hull Life -Saving Museum

This session will begin with a twenty minute 'cheap and dirty' rowing lesson. This will be followed by a row in Dorchester Bay with a scintillating commentary on museum programming for middle and high schoolers in Boston Harbor, possibly followed by a 'brief' "rowed race".

Afternoon Field Trips

Marine Biology aboard the R/V Mysis

Cruise participants experience coastal oceanography and marine ecology sampling techniques aboard Northeastern University's research vessel



Boston Light on Little Brewster - Kelly Fellner,
the National Park Service

Discover the evolution of lighthouse technology, the daily life of the lighthouse keeper and the development of the country's lifesaving service and US Coast Guard

Coastal Geology of the Harbor Islands

Duncan Fitzgerald of BU

Rainsford Island and Archaeology

This tour will look at artifacts which have been unearthed and give a glimpse into early life on the islands.

(Participants wishing to remain at the University will be offered additional afternoon workshops)

