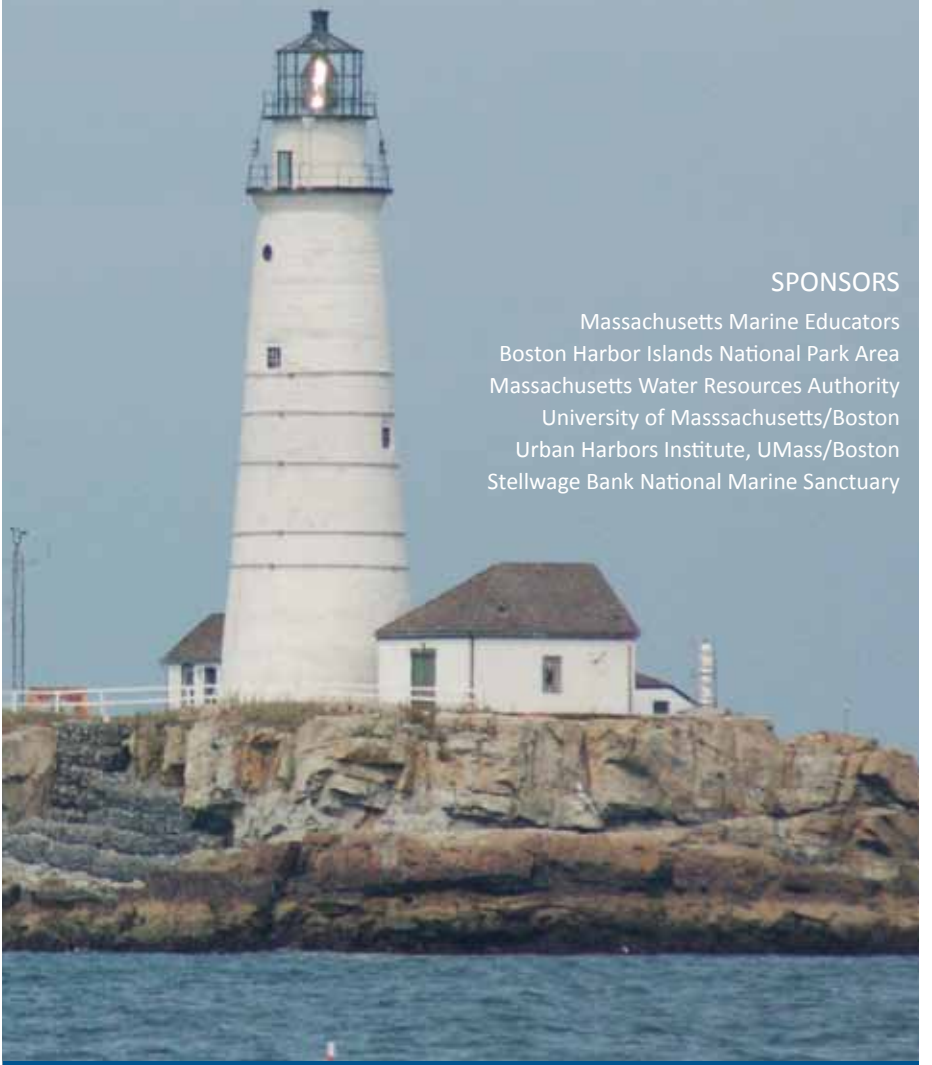
Boston Harbor Educators Conference 2014

Saturday
September 27, 2014
UMass/Boston



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Securing our Harbor for Future Generations

Boston Harbor Educators Conference

Saturday, September 27, 2014

Securing our Harbor for Future Generations

Welcome to all teachers, environmental educators, scientists, naturalists, and interested citizens.

Boston Harbor is a busy place, filled with vessels engaged in maritime commerce. Yet this urban place is also the setting of a dynamic natural environment that has been witness to centuries of historic events. It is incumbent that we understand the past and present of this special area and secure our harbor for future generations -- appreciating its intrinsic beauty, its wealth of resources and its place in American history.

Our conference introduces stewardship and conservation programs that have been created to protect the waters, islands and living marine resources of Boston Harbor.

We hope today's conference will provide you with valuable new insights into the harbor and the spectacular islands scattered throughout. We encourage you to continue your harbor explorations -- in the classroom and on the water -- in the days and years ahead.

Enjoy your day and leave with a greater appreciation of Boston Harbor, its islands and the marine resources just off our shore and be inspired to help protect this valuable legacy.

http:// www.massmarineeducators.org

Conference Schedule

LOCATION: UMass/Boston, McCormack Hall

8:15-8:45	Registration, Coffee & Pastries, Exhibits -- Ryan Lounge
8:45-9:00	Welcome
9:00-9:45	Speaker 1: Phil Colarusso, EPA Diving Scientist-Boston Harbor *"The Recovery of an Urban Wilderness"*
9:45-10:00	Coffee, Exhibits, Networking
10:00-11:00	Education Workshops
11:15-12:15	Speaker 2: Marc Albert, BHI NRA Stewardship Program *"Science & Park Management at the Boston Harbor Islands"*
12:15-12:45	Lunch and Exhibits
12:45-1:45	Education Workshops
2:00-4:00	Boat Trip and Tour of Thompson Island

Speaker

The Recovery of an Urban Wilderness

Phil Colarusso, EPA Diving Scientist-Boston Harbor

Within the lifetime of one generation, the ecological quality of Boston Harbor has undergone several dramatic transitions. It has gone from a typical urban harbor to arguably the most degraded coastal water body in the United States, to by many measures, one of the cleaner urban harbors in the nation. Each of these changes had profound ecological, social and political implications. Dr. Colarusso will focus primarily on how water quality changes in Boston Harbor has impacted the marine organisms that live there, but will also touch upon the broader social and political effects of the quality of the Harbor.

Background:

Phil has spent a half century living and going to school near, working on, swimming and diving in Boston Harbor. He has been working at EPA for 25 years in the Coastal and Ocean Protection Section. He is one of the founding members of the EPA Region I SCUBA program and is an avid diver. His current areas of research include the impact of invasive species on seagrasses and coastal food webs, seagrass restoration and water quality requirements of seagrasses. In 2014, he received a Gulf of Maine Visionary Award from the Gulf of Maine Council for his dedication to the conservation of seagrasses in the Gulf of Maine. He was also selected to serve on the steering committee for an international workgroup sponsored by the Council of Environmental Cooperation. This workgroup consists of experts from Canada, Mexico and the United States and its goal is to estimate the quantity of carbon sequestration that coastal habitats, such as mangroves, salt marshes and seagrasses, may account for in North America.

Speaker

Science and Park Management at the Boston Harbor Islands

Marc Albert, Stewardship Program Director,
Boston Harbor Islands National Recreation Area

From monitoring changes to coastal bluffs and the surface elevation of salt marshes; the timing of native plant flowering; to the diversity and populations of insects and fungi, coyotes, voles, colonial nesting birds and invasive marine invertebrates, the Boston Harbor Islands National Park Area has become a site of expanding research in the region. This talk will provide a broad survey of ongoing science and the management challenges that science can inform.

As the only partially drowned drumlin field in North America and an island archipelago amidst a large urbanized landscape, the Harbor Islands are a rich natural laboratory for understanding the dynamics of physical and biological resources in an era of climate change and sea level rise. As protected parkland with centuries of human use, the studies being done by researchers, park managers, and citizen scientists are intended to help guide park management strategies as we move into the next century. We also hope to stimulate dialogue about how the Boston Harbor Islands Partnership can build upon existing programs to further connect the abundant local student and community resources to meaningful science projects in the park.

Background:
As a graduate student of the University of California at Berkeley, Marc Albert was introduced to the National Park Service as an intern in the Site Stewardship Program of the Golden Gate National Parks Conservancy. There in the coastal scrub, he had his epiphany – realizing that in National Parks he could both do meaningful science and share his passion for nature with others in the community, working and discovering together on public lands. Marc joined the National Park Service in 1996, and since 2006 has served as the Stewardship Program Director for Boston Harbor Islands National Park area as well as the natural resource program manager for Saugus Iron Works and Salem Maritime National Historic Sites.

At Boston Harbor Islands, Marc facilitates the study, protection, and restoration of the wild places and historic features of the park through partnerships with federal, state, and non-profit island managers, local universities, and community volunteers. Marc has created a vigorous stewardship volunteer program to help meet park management goals at the Harbor Islands, including the signature Stewardship Saturday program that visited nine park islands and peninsulas across 35 Saturdays in 2013. These programs directly engage students, groups, and individual volunteers in hands-on learning as they work alongside park staff to control invasive non-native species and collect data for monitoring projects. Marc is currently working to formally establish the Boston Harbor Islands Center at UMass Boston, which facilitates projects and programs that bring scientists, park managers, educators, students, and community volunteers together to learn about and protect the Harbor Islands.

Workshops (continued on next page)

Workshop 1: How Can I Help? Empowering Students with Citizen Science

Presenter: Loree Griffin Burns, PhD, Children's Book Author

Grade Level: K-12

Subject Areas: Science, Natural History, Citizen Science

Background: Citizen science is the study of our world by the people who live in it. Not just professional people—scientists with degrees and laboratories and fancy equipment—but everyday people, too. All men, women, and children who use their senses and their smarts to observe and understand the world around them can be citizen scientists, including you, your children, or your students.

Workshop Description: As a scientist, a writer, and a mother, Dr. Loree Griffin Burns, is committed to providing children with accurate, age-appropriate information about real world events. Drawing on her experiences researching and writing about environmental issues from ocean pollution to the collapse of honey bee populations, Burns proposes a formula for sharing these stories without scaring students: give them something meaningful they can do to help. From tallying beach debris (International Coastal Cleanup) and monitoring native bee populations (Great Sunflower Project) to tagging monarch butterflies (Monarch Watch) and hunting ladybugs (Lost Ladybug Project), Burns has practiced citizen science in her own backyard, coordinated events in her community, introduced projects into schools, and observed events from Central Park to central Mexico. In this workshop, she'll recommend a variety of nationally organized and freely available citizen science projects and share resources for educators, families, and students of all ages.

Workshop 2: Ocean Acidification – What is it? How does it work? Why should we care?

Workshop Presenter: Dr. Isaac Westfield, Lab Manager/Research Technician, Ries Lab, Northeastern University Marine Science Center

Grade Level: 6-12

Subject Areas: Marine Science, Chemistry, Conservation

Background: The Ries Lab at the Northeastern University Marine Science Center is focused on determining the current and future impacts of acidification on the world's oceans. The Ries Lab accomplishes this through various activities, such as long term water chemistry monitoring, isotopic and elemental analysis of coral skeletons, and experiments involving various marine organisms and different carbon dioxide levels.

Workshop Description: The workshop will explore the "what, how, and why?" of ocean acidification. Attendees will learn the basics of this recently identified climate change issue through simple chemistry, live analysis of experiments, hands on experiences, and specimens displaying the impacts acidification can have on the oceans.

Workshops

Workshop 3: Salt Marsh Science/Mass Audubon's Salt Marsh Science Project (SMS)

Workshop Presenters: Liz Duff, Education Coordinator, Mass Audubon,
Lori La France, Ipswich High School Teacher

Grade Level: 6-8, 9-12

Subject Areas: Marine Science, Biology, Ecology

Background: Since 1996, students in grades 5 through 12 on the North Shore have been working with Mass Audubon scientists to learn about salt marshes and common reed (Phragmites australis), an invasive plant that grows in salt marshes. The information collected helps scientists advise local, state, and federal agencies on how to protect and restore these habitats. Long-term data can be found at http://www.massaudubon.org/saltmarsh

Workshop Description: How are humans impacting local salt marshes? Can we improve their health? Middle and high school students are working in partnership with Mass Audubon, collecting long term data to help find out. Learn about these authentic learning experiences, and ways that you can utilize data and curriculum resources available on line. Workshop format: Presentation, Hands-on, Data Analysis

Workshop 4: Marine Invasive Species for Elementary Students

Workshop Presenters: Mary Kay Taylor and Curtis Sarkin, Maritime Gloucester

Grade Level: 3-5

Subject Areas: Marine Science, Biology, Habitats

Background: Maritime Gloucester is a non-profit maritime museum and marine environmental educational organization. Our location on Gloucester Harbor allows for unique educational programming on our waterfront campus and aboard the Schooner Ardelle. We offer programming for multiple Cape Ann communities, internship opportunities, summer programs, lectures, and collaborative workshops with various colleges and universities. Maritime Gloucester is part of an on-going citizen science project monitoring the growth of marine invasive species.

Workshop Description: How do invasive species arrive in new places? What impact do they have on marine habitats? How can they be controlled or prevented? We'll look at how to teach elementary students about marine invasive species through a fun, interactive game. Participants will get a chance to play as students in order to develop and draw their own invasive species. Using cards, participants will discuss the characteristics that make marine invasives successful and then combine those characteristics to design a new species.

Harbor Cruise - Salt Marsh Walk at Thompson Island

At the end of the conference, take a short cruise aboard UMass Boston's MV *Columbia Point* to Thompson Island, home of Thompson Island Outward Bound Education Center. During a brief visit to the island, join a National Park Ranger for a guided walk of the island's restored salt marsh and see some of the bird monitoring equipment, and maybe even get your hands dirty!

Massachusetts Marine Educators

Massachusetts Marine Educators is a dynamic grassroots organization of teachers (kindergarten through college), representatives from museum, aquaria, government and business, and individuals. Our goal is to create a marine literate society by integrating marine studies into existing curricula. MME develops and shares curriculum materials, holds frequent meetings, and helps provide in-service teacher training. Membership is $30 per year, which includes a subscription to ***Flotsam & Jetsam***, our newsletter, and notices of upcoming events, including the annual meeting in Woods Hole, the High School Marine Science Symposia on the North Shore and Southeast Massachusetts, and our annual Marine Art Contest.

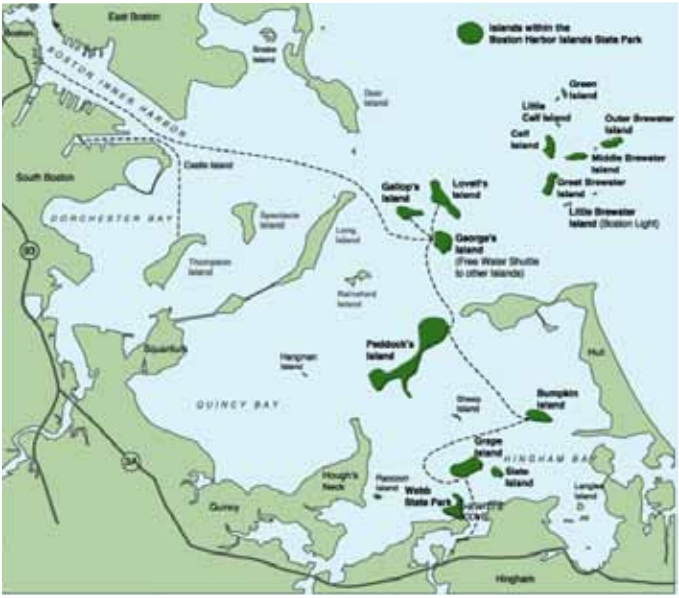
For more information about MME, visit our website at:
http://www.massmarineeducators.org

BHEC Organizing Committee

Many thanks to these committee members who worked diligently and tirelessly to bring you this day.

Chairs: Peg Collins and Nicole Scola

Gail Brookings	Russ Bowles	Elisabeth Colby
Carl Johnson	Joe LaPointe	Dennis Leigh
Douglas Maitland	Duncan Maitland	Linda McIntosh
Chris Ratley	Anne Smrcina	Meg Tabacsko



Boston Harbor Islands National Recreation Area

Conference Registration

To register for the conference:
https://massmarineeducators.wufoo.com/forms/z1x1uz0x1367sr1/

$50 for current MME members (includes lunch)
$65 for non-MME members (includes lunch and half-year membership to MME)
$25 MME student rate (includes lunch)
$35 non-MME student rate (includes lunch and half-year membership to MME)
$60 Walk-in registration MME member (includes lunch)
$75 Walk-in registration non-MME member (includes lunch and half-year membersl

For questions, please contact Conference Co-Chairs
Nicole Scola: email nscola@neaq.org or call 617-973-6590
Peg Collins: email ccndpcllns@aol.com

Parking & Transportation

PARKING: The Campus Center garage will be open, as well as Parking Lots B, C and Beacons. The South Lot and Lot A will not be available.

PUBLIC TRANSIT: Public transportation is available via the MBTA Red Line to the JFK Library/UMass stop and then a free shuttle bus to campus.

SPONSORED PARKING/MBTA FARES: The Urban Harbors Institute of UMass/Boston will sponsor the parking or T-fares for the first 50 registrants. Sign up soon for this conference benefit.

DRIVING to the CONFERENCE: Take the Southeast Expressway (N or S/ Rt. 93) to the JFK Library/UMass exit. Follow signs to the campus.

For driving directions, public transportation and parking information, go to: http://www.umb.edu/the_university/getting_here