

The Massachusetts Marine Educators present the:
High School Marine Science Symposium
Thursday, March 8, 2018

Northeastern University, 360 Huntington Avenue, Boston, MA

Please join the Massachusetts Marine Educators (MME) for an exciting glimpse into the marine world through a diversity of perspectives from around Massachusetts. Presenters will include experts from the MA Division of Marine Fisheries, the New England Aquarium, NOAA, the Seacoast Science Center, the National Marine Life Center, and many others. Students will investigate current and on-going projects in marine science and related disciplines.

Symposium Schedule:

8:15 am	Registration
8:45 am	Welcome and orientation
9:10 am	Workshop A
10:00 am	Workshop B
10:50am	Workshop C
11:40 am	Featured Presentation
12:25 pm	Lunch
1:00 pm	Depart

Featured Presentation: *Hanging Out with Humpbacks*, presented by Dr. David Wiley, Research Coordinator with the Stellwagen Bank National Marine Sanctuary. The last two decades have seen a revolution in whale research. Whereas previous researchers were mainly limited to surface observations, technologies allow today's scientists to gain unprecedented views of the complex underwater lives of these mysterious ocean giants. Scientists at the Stellwagen Bank National Marine Sanctuary, located just off the coast of Massachusetts, have been in the vanguard of this research and will share new findings about the lives of humpback whales and what can be done to protect them

Workshops: There will be 12 hands-on marine science workshops that will be repeated in each of the three time slots. Students will attend two workshops during the day in addition to the featured presentation and the ocean science fair.

Ocean Science Activity Fair: Presenters will lead short activities and demonstrations at tables, and students will have 40-minutes to rotate between different tables, learning and networking with marine science professionals.

Space is limited, and registration will take place on a first-come, first-served basis. To register:

- 1) Fill out the **registration form** here: <http://tinyurl.com/hsmss2018>
- 2) **Pay** online via PayPal, or initiate a Purchase Order for payment by check. An invoice will be sent to you upon registration. Full payment is expected by the day of the event.
- 3) Collect **student workshop preferences** via the attached form and submit to v.perini@northeastern.edu by Tuesday, February 27th. To the greatest extent possible, workshop attendance will be assigned based on student preferences while ensuring an even distribution of participants in each session.
- 4) Read Northeastern's **Policy on Programs Involving Minors** available at https://www.northeastern.edu/policies/pdfs/Policy_on_Programs_Involving_Minors.pdf and **Code of Conduct for Programs Involving Minors** available at http://northeastern.edu/risk_services/wp-content/uploads/2015/08/Code-of-Conduct-for-Minors-programs-New-Seal.pdf
- 5) Submit a signed copy of the **Third Party Certification** (see below) to v.perini@northeastern.edu by Tuesday, February 27th.
- 6) Collect **media releases** (see below) for every attendee. Please bring these with you to the event.

Cost: \$13 per student includes registration materials, morning refreshments and a boxed lunch.

Refreshments: A light snack will be provided during the registration period. A box lunch will be provided for all registered students, teachers, and chaperones, and vegetarian options will be available. If a student has a other specific dietary limitations, they are advised to bring their own snack and lunch.

Other logistics: We recommend a chaperone ratio of 1:10. Schools are responsible for their own transportation. Limited bus parking available at the event. Please inquire for more details.

If you have any questions, please email Val at v.perini@northeastern.edu or call 781-581-7370, x373.
Please visit www.ma-marine-ed.org for more information.



Northeastern University
Marine Science Center



MEDIA RELEASE

I hereby authorize Northeastern University, and those acting pursuant to its authority to:

- (a) Record my likeness and voice on a video, audio, photographic, digital, electronic or any other medium.
- (b) Use my name in connection with these recordings.
- (c) Use, reproduce, exhibit or distribute in any medium (e.g. print publications, video recordings, CD-ROM, Internet) these recordings in connection with Northeastern University Marine Science Center Outreach Programs.

I release Northeastern University and those acting pursuant to its authority from any liability related to my child's participation in the University's programs, including the Coastal Ocean Science Academy. I understand that all such recordings, in whatever medium, shall remain the property of Northeastern University. I have read and fully understand the terms of this release.

Participant name

Street address

City, state, zip

Participant signature

Date

If participant is under age 18, please also complete the following:

I further state that I am the Participant's parent/guardian and am fully competent to sign this agreement; and that I execute this release for full, adequate and complete consideration fully intending for myself, for the participant and for the participant's family, estate, heirs, administrators, personal representatives or assigns to be bound by same.

Parent/guardian name

Parent/guardian Signature

Date



Northeastern University

REQUIREMENTS AND CERTIFICATION BY THIRD PARTY SPONSOR OF COMPLIANCE WITH POLICY ON PROGRAMS INVOLVING MINORS AT NORTHEASTERN UNIVERSITY

- Third-Party Sponsors must acknowledge that they have received, read, and understand Northeastern University's current Policy on Programs Involving Minors and Code of Conduct.
- Third-Party Sponsors must certify that all persons who will be acting as Responsible Adults in their Program (as defined by Northeastern University's Policy on Programs Involving Minors) have completed:
 - Required Training that complies with M.G. L. c. 119, §51A;
 - Self-disclosure forms; and
 - Criminal background checks (CORI/SORI)
- Third-Party Sponsors must keep a current list of names and contact numbers of all Responsible Adults and make the list available promptly to the University upon request.
- Plans and procedures: Third-Party Sponsors must prepare, maintain and provide upon request, written plans and procedures for:
 - Communications and notifications for participants and parents/guardians, including for emergencies and program disruptions;
 - Medical emergencies;
 - Transportation, if applicable;
 - Supervision and staffing ratios; and
 - Rules of conduct for participants in the Program.

CERTIFICATION

On behalf of _____, I hereby certify that our organization meets the above three requirements of Third Party Sponsors.

Authorized Representative of Program
or Third Party Sponsor

Date

Print Name

Title

Workshop Offerings

Use the workshop number in designating student preferences on the form that follows.

#	Topic	Content
1	Ocean Smog: Understanding Plastic Pollution and Creating Solutions	Plastic Pollution is a leading threat to marine ecosystems throughout the world. This workshop provides students with an overview of this global problem, a hands-on activity, ideas for studying plastic pollution locally, and solutions that all of us can adopt to curb this problem. Presented by the Center for Coastal Studies
2	Doctoring Dolphins, Saving Seals, Tending Turtles - Marine Animal Rehabilitation	Massachusetts is a stranding "hotspot." Hundreds of sea turtles, seals, and dolphins come ashore every year in need of medical care. Through slides, video, and hands on exercises using model animals, we will talk about reasons for stranding, methods of rehabilitation, and discuss how wildlife rehabilitation plays an important role in ocean science and conservation. Presented by the National Marine Life Center
3	Marine Mammal Forensics	Stop! Look! It's a skeleton! There's the rib cage, vertebrae, a skull... There are an amazing number of anatomical similarities between marine mammal species and humans. Using real seal and dolphin bones, students will "reconstruct" skeletons and learn about the species' form and function. Presented by the Seacoast Science Center
4	How Old Is That Fish?	The age of a fish is one of the most valuable pieces of information scientists use to manage species, but how do we figure it out? In this workshop, we will explore a few of the many different techniques used to decipher the age of a fish. Learn how to remove otoliths ("ear stones") from specimens and then interpret the markings on these structures to discover their ages. Presented by the Massachusetts Division of Marine Fisheries
5	What to do about CO ₂ ?	Students will explore the effects of excess carbon dioxide (CO ₂) on our oceans through a hands-on experiment. Then, students will be challenged to think creatively about ways to capture carbon dioxide from our atmosphere and how we can utilize captured carbon dioxide to create new products and help mitigate the negative impacts of carbon dioxide on our environment. Presented by the Beyond Benign
6	Squid - Inside and Out!	Participate in a hands-on squid dissection to learn dissection skills, squid biology, and a little about the people who work at the Aquarium. Presented by the New England Aquarium

7	KELP us identify these algae!	<p>In this workshop, students will learn about the importance of marine algae AKA “seaweed” in natural ecosystems and for human use. They will learn to identify different kinds of algae using a field guide and real algae samples. Students will be given the opportunity to create an artistic "algae press" to take a dried algae sample home with them.</p> <p>Presented by Beach Sister Peer Leaders of the Northeastern University Marine Science Center and Girls Inc. of Lynn</p>
8	<p>Let's play and Learn about SCUTES (Students Collaborating to Undertake Tracking Efforts for Sturgeon)!</p>	<p>Atlantic and short-nose sturgeon are two sturgeon species that can be found in coastal waters, estuaries, and major rivers along the East Coast of the United States. Because of overfishing for sturgeon eggs which were processed into caviar, short-nose and Atlantic sturgeon have been listed throughout their range under the Endangered Species Act (ESA). During this workshop you will play familiar games to learn how humans, sturgeon, and the ocean are connected.</p> <p>Presented by NOAA Greater Atlantic Regional Fisheries Office</p>
9	Marine Mammals and Sound	<p>The ocean is illuminated by sound, which travels much farther than light underwater. Marine mammals use both natural sounds and sounds they produce for just about every aspect of their lives. Join a NOAA scientist to learn about the importance of sound to marine mammals, exploring sounds made by various species of marine mammals, how information can be gained from sound, and discover challenges to this communication in the shared ocean soundscape.</p> <p>Presented by NOAA Outreach and Education on Protected Species (NOEPS)</p>
10	Climate Change Impacts on Gulf of Maine Seafood	<p>The Gulf of Maine is changing faster than we can manage. Things are happening now we may not realize for several years. We know the impacts of some factors on their own: warming oceans; acidification; current change. But we still don't fully understand how these interact, and their combined effect on everything from lobsters to kelp. For seafood lovers (or not!), this workshop explores the challenges of predicting climate change impacts on seafood, and how we should adapt.</p> <p>Presented by One Fish Foundation</p>
11	Trash in our oceans: understanding the problem and designing creative solutions	<p>Marine debris, or trash in the ocean, is both a global and a local problem. Join our session to investigate the ecological and human impacts of marine debris. After understanding problems associated with marine debris, students will work in groups to devise their own solutions, from media campaigns and innovative products, to education programs and policy changes.</p> <p>Presented by Hurricane Island Center for Science and Leadership</p>
12	How to Participate in the City Nature Challenge 2018	<p>The City Nature Challenge is a fun and educational biodiversity counting competition between cities across the country, which will occur from April 27 – May 1, 2018. We'll introduce the Challenge, and demonstrate how students can participate using the iNaturalist app on their phones.</p> <p>Presented by the Suffolk University Biology Department</p>

Student Workshop Preferences

Boston High School Marine Science Symposium

Using the workshop descriptions and #s as reference, please fill out the following form with student names, dietary preference, top 4 workshop choices (use the workshop # provided), and dietary restrictions. Please return this via email to v.perini@northeastern.edu or fax to 781-581-6076 by Tuesday, February 27th.

Failure to submit the form by that time may result in student preferences not being considered.

SCHOOL NAME: _____

LEAD TEACHER: _____

STAYING FOR LUNCH? (Yes or No) _____

Student name	Vegetarian? (Yes or No)	Workshop 1 st choice	Workshop 2 nd choice	Workshop 3 rd choice	Workshop 4 th choice
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Student Workshop Preferences (cont.)
Boston High School Marine Science Symposium

SCHOOL NAME: _____

LEAD TEACHER: _____

STAYING FOR LUNCH? (Yes or No) _____

Student name	Vegetarian? (Yes or No)	Workshop 1 st choice	Workshop 2 nd choice	Workshop 3 rd choice	Workshop 4 th choice
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(use additional sheets if need be)