



NEERS FALL 2018 MEETING

October 26 and 27

University of Massachusetts, Dartmouth, SMAST
New Bedford, MA



Organized and Hosted By:

Local Committee: Sara Grady, Adrienne Pappal, Kathryn Ford, John Logan

Symposium: Adrienne Pappal and Sara Grady

Scientific Program: Tay Evans and Cathy Wigand

NEERS Executive Committee: Sara Grady, Susan Adamowicz, Jamie Vaudrey, Autumn Oczkowski, Courtney Schmidt, Pamela Neubert, Tristan Taber, Curtis Fahey, Alan Young, Brett Branco, Tay Evans and Cathy Wigand

Gold Supporters:



Silver Supporters:



NEERS Fall 2018 meeting Schedule

Friday, October 26th

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| 9:30 am – 11:30 am | Executive Committee meeting (committee members only) |
| 11:30 am – 12:30 pm | Meeting registration and Lunch |
| 12:30 – 3:00 pm | Special Symposium: Citizen Science – Linking Science, Management and Stewardship |
| 3:00 – 4:30pm | Break and Poster Session |
| 4:30 - 6:00 pm | NEERS business meeting and elections |
| 6:00 – 7:30 pm | Welcoming social (at Moby Dick Brewery, 16 S. Water Street) |

Saturday, October 27th

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| 7:30 – 8:00 am | Meeting registration |
| 8:00 am | President's welcome |
| 8:15 -10:00 am | Oral presentations |
| 10:00 – 10:30 am | Break and additional poster viewing |
| 10:30 – 12:15 pm | Oral presentations |
| 12:30 pm | Meeting adjourn and field trips |

Fall Meeting of the New England Estuarine Research Society

Friday, October 26th

Special Symposium: Citizen Science – Linking Science, Management, and Stewardship

12:30 PM Introduction to the symposium – Adrienne Pappal (Mass CZM)

Citizen science has become a crucial link in connecting people to their local environment, providing data for management at temporal and spatial scales that are difficult to achieve otherwise. In an age where resources for scientific education and exploration are limited, these local, place-based experiences also provide an exceptional opportunity to expand scientific knowledge. A wide variety of citizen science is conducted in New England with varying degrees of data vigor and level of commitment. While shown to be an effective way to gather data, citizen science also has its challenges. This symposium will provide case studies from citizen science projects throughout New England and will be followed by a discussion session about the importance and challenges of this work.

12:40 PM Robert Buchsbaum*(1) and L. Duff(1), and A. Ridlon(2)

(1) Massachusetts Audubon, Wenham, MA (2) Elkhorn Slough NERR, Watsonville, CA.

CITIZENS AS SCIENTISTS: LESSONS LEARNED AFTER 30 YEARS AT MASS AUDUBON

1:00 PM Aimee Bonanno*, M. Studer (1), E. Baitchman(2), T. Barbaro(1) A. Bonanno*(3), M. Chandler(4), C. Hitchcock(5), E. Kelly(5), A. Lorenz(6), C. Mead(2), and R. Stevenson(7)

(1) Encyclopedia of Life Learning + Education, Harvard University, Cambridge, MA; (2) Zoo New England, Boston, MA; (3) New England Aquarium, Boston, MA; (4) Boston Nature Center, Massachusetts Audubon, Boston, MA; (5) Environmental Studies Department, Brandeis University, Waltham, MA; (6) Whale Camp Inc, Cheyney, PA; (7) University of Massachusetts Boston, Boston, MA.

SUPPORTING SCIENTIFIC EXPLORATION AND ENGAGING COMMUNITIES THROUGH THE CITY NATURE CHALLENGE

1:20 PM Christina Kennedy* and A. Pappal

(1) Massachusetts Office of Coastal Zone Management, Boston, MA.

Marine Invader Monitoring and Information Collaborative: Critical Link for Early Detection

1:40 PM Peter Linderoth* and E. Colón

(1) Save the Sound, Mamaroneck, NY.

UNIFIED APPROACH TO WATER QUALITY MONITORING LONG ISLAND SOUND EMBAYMENTS

- 2:00 PM John J. Sheppard
Massachusetts Division of Marine Fisheries.
UTILITY OF ABUNDANCE ESTIMATES DERIVED FROM CITIZEN GROUPS
FOR THE MANAGEMENT OF RIVER HERRING POPULATIONS
- 2:20 PM Alyson Eberhardt*(1) and M. Clyde (2)
(1) NH Sea Grant Extension, University of New Hampshire, , Lee, NH; (2) UNH
Cooperative Extension, , Durham, NH.
CITIZEN SCIENCE TO ACHIEVE BOTH RESEARCH AND ENGAGEMENT
OBJECTIVES: EXAMPLES FROM THE COASTAL RESEARCH VOLUNTEERS
AND NATURE GROUPIE
- 2:40 PM Panel Discussion and Concluding Remarks

3:00 PM **BREAK AND NEERS POSTER SESSION**

*Presenter; (D) Dean Prize for best graduate student poster, (W) Warren prize for best undergraduate student poster

NITROGEN ATTENUATION, WATER QUALITY AND COASTAL ACIDIFICATION

- P-1 Edward Dettmann* (1), L. Charlestra (2), and M.A. Abdelrhman (1)
(1) Atlantic Ecology Division, U.S. Environmental Protection Agency, Narragansett, RI, (2) Massachusetts Water Resources Authority, Boston, MA.
TIME-SCALE DEPENDENCE OF RESPONSE OF AN ESTUARINE WATER-QUALITY MODEL TO NUTRIENT LOADING
- P-2 **(D)** Danielle Alexander*(1) and B.F. Branco (1)(2)
(1) Department of Earth and Environmental Sciences, Brooklyn College, City University of New York; (2) Aquatic Research and Environmental Assessment Center, Brooklyn College, City University of New York.
A SPATIAL AND TEMPORAL ANALYSIS OF WATER QUALITY INDICATORS IN JAMAICA BAY, NY
- P-3 Serena Moseman-Valtierra*(1), C. Wigand (2) and E. Davey (2)
(1) Department of Biological Sciences, University of Rhode Island, Kingston, RI
(2) EPA Atlantic Ecology Division, Narragansett, RI.
TRACKING LEVELS AND POTENTIAL IMPACTS OF NITROGEN OVER THE LAST 6 YEARS IN NARRAGANSETT BAY SALT MARSHES
- P-4 **(D)** Bianca Ross*, A. Boucher, J. Ludovico, K. Hoyt, G. Loomis, and J. Amador
Laboratory of Soil Ecology and Microbiology, University of Rhode Island, Kingston, RI.
PHOTOMETER ANALYSIS OF NITROGEN IN EFFLUENT FROM ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS
- P-5 **(Past D winner)** Amber Unruh*, B. Howes, R. Samimy, and E. Eichner
Department of Estuarine and Oceanographic Sciences, School for Marine Science and Technology, UMass Dartmouth, MA.
DIAGNOSTIC ASSESSMENT OF A EUTROPHIC FRESHWATER POND AND ITS CAPABILITIES TO REMOVE NITROGEN FROM THE WATERSHED

OYSTERS AND WATER QUALITY

- P-6 Jennifer Benson*, S. Sampieri-Horvet*, and B.L Howes
Department of Estuarine and Ocean Sciences, University of Massachusetts Dartmouth School for Marine Science and Technology.
EFFECTS OF WATER QUALITY ON OYSTER GROWTH AND SURVIVAL IN

CAPE COD, MASSACHUSETTS ESTUARIES

- P-7 **(Past D winner)** Micheline S. Labrie*, D.R. Schlezinger, M.A. Sundermeyer, B.L. Howes
School for Marine Science and Technology, University of Massachusetts Dartmouth, New Bedford, MA.
QUANTIFYING THE POTENTIAL FOR NITROGEN REMOVAL THROUGH THE HARVEST OF AQUACULTURE OYSTERS FROM SOUTHEASTERN MASSACHUSETTS EMBAYMENTS
- P-8 **(D)** Pooja Potti*
Umass Dartmouth SMAST.
COMPARING HISTORIC OYSTER POPULATIONS TO PRESENT DAY RESTORATION ACTIVITIES IN EAST COAST ESTUARIES

INNOVATIVE RESOURCE MANAGEMENT AND RESTORATION STRATEGIES

- P-9 **(D)** Kristen Schmicker*(1) and M. Rousseau (2)
(1) Northeastern University, Nahant, MA.; (2) MA Division of Marine Fisheries, Gloucester, MA.
METHODS FOR IDENTIFICATION OF POTENTIAL ARTIFICIAL REEF SITES IN CAPE COD BAY
- P-10 Rachel Stearns*(1), B. Roy(1), S.R. Dodgin(1), S.C. Adamowicz(1), and G. Wilson(2)
(1) US Fish and Wildlife Service, Rachel Carson NWR, Wells, ME; (2) Northeast Wetland Restoration, Berwick, ME.
FARMERS IN THE MARSH: A NEW APPROACH TO SALT MARSH RESTORATION
- P-11 **(D)** Grace E. Medley*(1), C.R. Kincaid(1), and K.L. Rosa(1)
(1) Graduate School of Oceanography, University of Rhode Island, RI.
DREDGING FOR ENVIRONMENTAL BENEFIT: MODELS OF FLUSHING DYNAMICS IN THE PROVIDENCE RIVER ESTUARY
- P-12 John Terry* (1) and J. Tucker(2)
(1)Gulf of Maine Institute, Newbury, MA; (2)The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA.
BRINGING COMMUNITY-BASED STEWARDSHIP TO THE GULF
- P-13 Abhishek T. Naik* (1, 2), M. Smithers(3) and P. H. Moisander(1, 2).
(1) School of Marine Science and Technology, University of Massachusetts - Dartmouth; (2) Department of Biology, University of Massachusetts – Dartmouth; (3) Boston Engineering Corporation.
EFFECTIVENESS OF UV-C AS AN ANTIFOULING SOLUTION

SNAILS AND FISH

- P-14 Carl L. Merrill* and A. Wynn
Department of Biology, Suffolk University, Boston, MA.
**CHANGING POPULATION DENSITIES OF INTERTIDAL LITTORINID SNAILS
IN COBSCOOK BAY, MAINE FROM 2000-2018**
- P-15 Jacob A. Aman*(1), M.T. Kinnison (2), C. Gottsegen (1), and V. Holmes (2)
(1) Wells National Estuarine Research Reserve, Wells, ME;
(2) School of Biology and Ecology, University of Maine, Orono, ME.
**DEVELOPING COST EFFECTIVE MONITORING FOR RAINBOW SMELT
USING EDNA**
- 4:30 PM **NEERS BUSINESS MEETING AND ELECTIONS; PRESIDENTIAL
INNOGURATION - President Sara Grady passes the wand to president-elect Sue
Adamowicz**
- 6:00 PM **NEERS Welcoming Social (at Moby Dick Brewing Co. 16 S. Water Street, New
Bedford)**

Fall Meeting of the New England Estuarine Research Society

Saturday, October 27th

8:00AM Welcome and Introductory Remarks – Sue Adamowicz, NEERS President

SALT MARSH EXTRAVAGANZA

Session Chair: Sara Grady

*Presenter; (K) Ketchum Prize candidate for best graduate student presentation

- 8:15AM Vitalii A. Sheremet*(1) and J.W. Mora (2)
(1) Graduate School of Oceanography, University of Rhode Island, Narragansett, RI;
(2) Waquoit Bay National Estuarine Research Reserve, Falmouth, MA.
TIDALLY INDUCED WELL WATER LEVEL VARIABILITY AND VERTICAL
GROUND MOVEMENT IN WAQUOIT BAY SAGE LOT MARSH
- 8:30 AM Ashley N. Bulseco-McKim*(1), A.E. Giblin(1), J. Tucker(1), A.E. Murphy(2), J.
Vineis(2), and J.L. Bowen(2)
(1) Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA; (2) Marine
Science Center, Northeastern University, Nahant, MA.
THE ROLE OF NITRATE AS AN ELECTRON ACCEPTOR IN SALT MARSH
ORGANIC MATTER DECOMPOSITION
- 8:45 AM Haley H. Miller*, H.L. Sullivan, and L.A. Deegan
Woods Hole Research Center, Woods Hole, MA.
QUANTIFYING NITRIFICATION AND AMMONIFICATION FROM SITES IN A
NORTHERN MASSACHUSETTS SALT MARSH
- 9:00 AM John M. Logan
Massachusetts Division of Marine Fisheries, New Bedford, MA.
SALT MARSH ABOVEGROUND PRODUCTION IN NEW ENGLAND
ESTUARIES IN RELATION TO NITROGEN LOADING AND ENVIRONMENTAL
FACTORS
- 9:15 AM Ron Rozsa
LONG-TERM VEGETATION CHANGE AT PALMER NECK MARSH, BARN
ISLAND, CT.
- 9:30 AM (K) Katherine A. Castagno*(1) and J.P. Donnelly (2)
(1) Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint
Program in Oceanography/Applied Ocean Science and Engineering, Woods Hole, MA;
(2) Department of Marine Geology and Geophysics, Woods Hole Oceanographic
Institution, Woods Hole, MA.
GRAIN-SIZE ANALYSIS OF HURRICANE-INDUCED EVENT BEDS IN A NEW
ENGLAND SALT MARSH

9:45 AM Agnes Mittermayr*, B.J. Legare, and M. Borrelli
Center for Coastal Studies, Provincetown, MA.
APPLICATIONS OF SHALLOW WATER MAPPING AND THE COASTAL AND
MARINE ECOLOGICAL CLASSIFICATION STANDARD (CMECS) IN A
PARTIALLY RESTORED NEW ENGLAND SALT MARSH LAGOON.

10:00 AM BREAK AND ADDITIONAL POSTER VIEWING

CREATURE DOUBLE FEATURE

Session Chair: Tay Evans

10:30 AM Courtney E. Schmidt*(1), E. Monroy (1), and E. Shumchenia(2)
(1) Narragansett Bay Estuary Program, Narragansett, RI
(2) E&C Enviroscope.
WARMING TEMPERATURES AND FISH COMMUNITIES IN BOTH
ESTUARINE AND FRESHWATERS OF THE NARRAGANSETT BAY
WATERSHED

10:45 AM Marguerite (Peg) Pelletier*(1), A.J. Gold(2), J. Copeland(1), L. Gonzalez(3), and P.V.
August(2)
(1) U.S. EPA, ORD, NHEERL, Atlantic Ecology Division, Narragansett, RI; (2) URI
Natural Resources, Kingston, RI; (3) URI Computer Science and Statistics, Kingston,
RI.
LANDSCAPE STRUCTURE AND LAND USE AFFECTS ESTUARINE BENTHIC
INVERTEBRATES IN THE VIRGINIAN BIOGEOGRAPHIC PROVINCE, USA

THREATS TO COASTAL ECOSYSTEMS

Session Chair: Courtney Schmidt

*Presenter; **(K)** Ketchum Prize candidate for best graduate student presentation

11:00 AM Jamie M. Vaudrey
Department of Marine Sciences, University of Connecticut, Groton, CT.
SEAWEED SURROUNDS US: AN UPDATE ON MACROALGAE BLOOMS IN
LONG ISLAND SOUND

11:15 AM **(K)** Alissa H. Cox*, G.W. Loomis, and J. A. Amador
(1) Department of Natural Resources Science, University of Rhode Island, Kingston,
RI.
RISING GROUNDWATER TABLES THREATEN COASTAL SEPTIC SYSTEMS

- 11:30 AM Veronica M. Berounsky*(1), H. Travers (2), and K. Reynolds (3)
(1) Narrow River Preservation Association, Saunderstown, RI; (2) RI Department of Environmental Management, Providence, RI; (3) Environmental Canine Services, Otisfield, ME.
CANINE DETECTION OF FECAL COLIFORM BACTERIA FROM HUMAN SOURCES IN THE PETTAQUAMSCUTT ESTUARY, RI.- PRELIMINARY RESULTS
- 11:45 PM Earl Davey*(1), R. Johnson (1), and K. Perez (1)
(1) US EPA, Office of Research and Development, National Health and Environmental Effects Research Lab., Atlantic Ecology Division, Narragansett, RI.
HISTORIC ECOLOGICAL INVESTIGATIONS OF ESTUARIES FROM NEW BEDFORD TO THE WEST BRANCH OF THE WESTPORT
- 12:00 PM Paul E. Stacey
Footprints In The Water LLC.
MAKING NATURE GREAT AGAIN: EPISODE 3 – TRAGEDY OF THE COMMONS REDUX
- 12:15 PM AWARDS AND CLOSING WORDS
- 12:30 PM MEETING ADJOURNS, meet for field trips and bag lunches