



NEERS SPRING 2017 MEETING

March 16 – 18, 2017

University of Connecticut, Avery Point Campus
Groton, CT

Organized and Hosted By

Jamie Vaudrey, University of Connecticut
Sarah Crosby, Harbor Watch
Craig Tobias & Michael Whitney of UCONN



Thank you to our generous supporters!

NEERS MEETING PROGRAM

*ABA = All oral sessions are in the Academic Building Auditorium (2nd floor).
MSB = All food and drink will be in the Marine Sciences Building, first floor atrium.*

Thursday, March 16th

11:15 – 12:15 pm	Meeting registration (ABA)
12:15 – 12:30 pm	Welcoming Comments (ABA)
12:30 – 5:00 pm	Special Symposium: Science in Support of Nitrogen Reductions to Long Island Sound (ABA); with a Break at 2:00, (MSB)
5:00 – 6:00 pm	Meeting registration (MSB)
5:00 – 7:00 pm	Welcoming Social (MSB)
7:00 pm	Dinner on your own in Groton

Friday, March 17th

7:45 – 8:15 am	Meeting registration (ABA)
8:15 – 9:45 am	Oral presentations: Shellfish Science and Management (ABA)
9:45 – 10:30 am	Break (MSB)
10:30 – 12:00 pm	Oral presentations: Eelgrass and Salt Marsh Ecology and Restoration (ABA)
12:00 – 1:15 pm	Lunch (MSB)
1:15 – 2:30 pm	Oral presentations: Chemical and Physical Oceanography (ABA)
2:30 – 4:30 pm	Poster presentations with Refreshments (MSB)
4:30 – 5:00 pm	Ignite presentations: Hot Topics in Estuarine Science (ABA)
5:00 – 5:30 pm	NEERS Business Meeting and Student Awards Presentation (MSB)
5:30 – 7:00 pm	Social (MSB)
7:00 – 8:30/9:00 pm	Pizza and movie: <i>Ocean Frontiers III: Leaders in Ocean Stewardship & the New Blue Economy</i> . Film followed by facilitated group discussion. (MSB)

Saturday March 18th

9:00 – 10:00 am	Oral presentations: Estuarine Water Quality and Environmental Pollution (ABA)
10:00 – 10:45 am	Break (MSB)
10:45 – 11:45 pm	Oral presentations: Salt Marsh Restoration and Management (ABA)
11:45 pm	Closing Words and Meeting Adjourns (ABA)
12:15 pm	Workshop: Introduction to Living Shorelines (MSB)

Thursday, March 16th

**SPECIAL SYMPOSIUM:
Science in Support of Nitrogen Reductions to Long Island Sound**

Chair: Sarah Crosby and Jamie Vaudrey

12:15 Sarah Crosby and Jamie Vaudrey, Welcoming Comments

12:30 Jim Ammerman
New England Interstate Water Pollution Control Commission, Long Island Sound Study,
Stamford CT
EPA'S MANAGEMENT STRATEGIES FOR NITROGEN REDUCTION IN LONG
ISLAND SOUND

1:00 Jamie Vaudrey
Department of Marine Sciences, University of Connecticut, Avery Point CT
NITROGEN LOADING TO LONG ISLAND SOUND'S 110 EMBAYMENTS

1:30 Stuart Lowrie
Long Island Chapter, The Nature Conservancy, East Hampton NY
WATER QUALITY ON LONG ISLAND - FROM SCIENCE TO ADVOCACY

2:00 **BREAK** (Marine Sciences Building)

3:00 Stuart Waugh and Xinwei Mao
Center for Clean Water Technology, Stony Brook University, Stony Brook NY
FUNCTION AND PERFORMANCE OF NITROGEN REMOVING BIOFILTERS
(NRBS) & PERMEABLE REACTIVE BARRIERS (PRBS) FOR TREATMENT OF
WASTEWATER & GROUNDWATER

3:30 Melanie Hayn*¹, R.M. Marino¹, R.W. Howarth¹, K.J. McGlathery², C. Sherwood³, P.
Traykovski⁴
¹Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY
²Department of Environmental Sciences, University of Virginia, Charlottesville, VA
³U.S. Geological Survey, Woods Hole, MA
⁴Woods Hole Oceanographic Institution, Woods Hole, MA.
UNDERSTANDING THE RESPONSE OF EELGRASS TO EUTROPHICATION IN
WEST FALMOUTH HARBOR, CAPE COD, MA

3:45 Rachel J. Jakuba*¹, M. Weiner¹, J.E. Costa², L.A. Deegan³ and C. Neill⁴
¹Buzzards Bay Coalition, New Bedford, MA
²Buzzards Bay National Estuary Program, East Wareham, MA
³Marine Biological Laboratory, Woods Hole, MA
⁴Woods Hole Research Center, Woods Hole, MA
SALT MARSH LOSS IN A NUTRIENT-IMPAIRED RIVER IN SOUTHEASTERN
MASSACHUSETTS

4:00 Hans Dam*, G. Park, L. Norton
Department of Marine Science, University of Connecticut, Avery Point CT
INTERACTION OF EUTROPHICATION AND CLIMATE CHANGE ON THE
ZOOPLANKTON OF LONG ISLAND SOUND

4:30 Discussion

5:00 **NEERS WELCOMING SOCIAL** (Marine Sciences Building)

7:00 Dinner on your own in Groton.

Friday, March 17th

8:15 Welcome and Introductory Remarks – Sara Grady, NEERS President

Shellfish Science and Management

Chair: Sue Adamowicz

*Presenter; **(K)** Ketchum Prize candidate for best graduate student presentation,
 (R) Rankin Prize candidate for best undergraduate student presentation

8:30 Eric G. Schneider*¹, J. M. Lake¹, and M.C. McManus^{1,2}
¹Rhode Island Department of Environmental Management, Division of Fish & Wildlife,
Jamestown, RI

²Graduate School of Oceanography, University of Rhode Island, Narragansett, RI.
ASSESSMENT OF SHELLFISH COMMUNITIES IN THE COASTAL PONDS OF
SOUTHERN RHODE ISLAND

8:45 Soren F. Dahl*¹ and B. Allam²

¹Division of Marine Resources, New York State Department of Environmental
Conservation

²School of Marine and Atmospheric Sciences, Stony Brook University, NY
INVESTIGATION OF QPX HARD CLAM DISEASE WITH ENVIRONMENTAL
FACTORS.

9:00 **(R)** Lauren E. Salisbury, C. E. Duball, J. A. Amador and M. H. Stolt
Department of Natural Resources Science, University of Rhode Island, Kingston, RI
ASSESSING THE IMPACTS OF OYSTER AQUACULTURE ON BENTHIC
INFAUNA OF COASTAL LAGOON SOILS IN SOUTHERN RHODE ISLAND

9:15 **(K)** Chelsea E. Duball*, L.E. Salisbury, J.A. Amador, and M.H. Stolt
The University of Rhode Island, Department of Natural Resources Science, Kingston, RI
ASSESSING THE ROLE OF OYSTER AQUACULTURE TO IMPROVE WATER
QUALITY AND THE IMPACTS OF OYSTER BIODEPOSITION ON THE
UNDERLYING SOILS

9:30 (K) 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.
EVALUATION OF THE POTENTIAL FOR OYSTER MEDIATED NITROGEN
REDUCTION IN A COASTAL SALT POND

9:45 BREAK (Marine Sciences Building)

Eelgrass and Salt Marsh Ecology and Restoration

Chair: Sarah Crosby

* Presenter; **(K)** Ketchum Prize candidate for best graduate student presentation,
(R) Rankin Prize candidate for best undergraduate student presentation

10:30 Anne Bernhard for: L. Frankel, S. Goldstein, C. Zazueta-Ramirez, S. Matthews, and A. Bernhard*
Department of Biology, Connecticut College, New London, CT.
PATTERNS OF NITROGEN-CYCLING MICROBIAL ABUNDANCE AND
DIVERSITY ACROSS A SALT MARSH LANDSCAPE

10:45 (K) Katelyn Szura*¹, S. Moseman-Valtierra, S.¹, M.E. Gonnee², J. Tang³
¹Department of Biological Sciences, University of Rhode Island, 120 Flagg Rd,
Kingston, RI
²Coastal and Marine Science Center, U.S. Geological Survey, 384 Woods Hole Road,
Woods Hole, MA
³The Ecosystems Center, Marine Biological Laboratory, 7 MBL Street Woods Hole, MA
IMPACT OF CHRONIC NITROGEN LOADING ON GREENHOUSE GAS FLUXES
IN COASTAL WETLANDS

11:00 Phil Colarusso*¹, M. Pelletier², A. Novak³, J. Simpson⁴, M.N. Gutierrez², A. Arias
Ortiz⁵, P. Masque^{5,6} and P. Vella⁶
¹US EPA, Boston, Ma
²US EPA, Narragansett, RI
³Boston University
⁴MIT SeaGrant
⁵University of Barcelona, Spain
⁶Massachusetts Coastal Zone Management
FACTORS AFFECTING CARBON ACCUMULATION IN NEW ENGLAND
EELGRASS MEADOWS

11:15 (K) Michelle C. Fogarty*, J.B. Edson, M.R. Fewings, C.R. Tobias
Department of Marine Sciences, University of Connecticut, Groton, CT
DIURNAL, TIDAL, AND SEASONAL VARIATIONS IN CARBON DIOXIDE AND
HEAT FLUXES OVER A SUBTROPICAL SALT MARSH: DEPENDENCE OF THE
TIMING OF LOW TIDE RELATIVE TO LOCAL NOON

11:30 Vitalii A. Sheremet*¹ and J. W. Mora²

¹Northeast Fisheries Science Center, NOAA, Woods Hole, MA

²Waquoit Bay National Estuarine Research Reserve, Falmouth, MA.

GROUND MOVEMENT OF A SALT MARSH IN RESPONSE TO TIDAL FLOODING AND DRAINING

11:45 (K) Paul J. Mancuso*, and B.L. Howes

Department of Estuarine and Ocean Sciences, School of Marine and Science Technology, UMass Dartmouth, New Bedford, MA.

NONQUITT SALT MARSH: THREE YEARS OF RESTORATION

12:00 LUNCH (Marine Sciences Building)

Chemical and Physical Oceanography

Chair: Mike Whitney

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

1:15 Stephen Smith*, S. Fox, H. Plaisted, K. Medeiros, K. Lee

National Park Service, Cape Cod National Seashore, 99 Marconi Site Rd, Wellfleet, MA
RECENT ATMOSPHERICALLY-DRIVEN CHANGES IN PH AND THERMAL PROPERTIES OF FRESHWATER LAKES IN CAPE COD NATIONAL SEASHORE (MASSACHUSETTS, USA).

1:30 Steven Deignan-Schmidt*, M. M. Whitney, Y. Jia

Department of Marine Sciences, University of Connecticut, Groton, CT
COASTAL ISLAND INFLUENCES ON NEAR-SHORE TEMPERATURE FLUXES IN WESTERN LONG ISLAND SOUND.

1:45 (K) Katherine D. Lavallee*¹, G. C. Kineke¹ and T. G. Milligan²

¹Department of Earth and Environmental Sciences, Boston College, Chestnut Hill, MA

²Bedford Institute of Oceanography, Dartmouth, NS.

TOUGHIES AND FLUFFIES: SEASONAL PATTERNS OF COHESIVE PARTICLE CHARACTERISTICS IN THE CONNECTICUT RIVER ESTUARY

2:00 Sandy Macfarlane

Coastal Resource Specialists, Duxbury, MA

AN UP ESCALATOR: THE GULF STREAM AS PREDICTOR OF ESTUARY CHANGE?

2:15 Bryan A. Oakley

Eastern Connecticut State University, 265 Science Building, 83 Windham Ave, Willimantic, CT.

THE BLOCK ISLAND BEACH PROFILE PROJECT: USING (SUPER) CITIZEN SCIENTISTS TO MONITOR BEACHES AT HARD TO ACCESS FIELD SITES: REDUX

2:30 POSTER SESSION and Refreshments (Marine Sciences Building)

Posters

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

- P-1** (D) Kevin J. Simans* and G.C. Kineke
Department of Earth and Environmental Sciences, Boston College, Chestnut Hill, MA.
VELOCITY STRUCTURE AND SUSPENDED-SEDIMENT FLUX IN A HIGHLY-STRATIFIED ESTUARY
- P-2** (W) Cody J. Murphy*¹ and B.A. Oakley²
¹Environmental Earth Science Department, Eastern Connecticut State University, 83 Windam St, Willimantic, CT
²Environmental Earth Science Department, Eastern Connecticut State University, 83 Windam St, Willimantic, CT
QUANTIFYING SEDIMENT DEPOSITION SINCE THE CONSTRUCTION OF THE POINT JUDITH, RHODE ISLAND HARBOR OF REFUGE BREAKWATER USING SEISMIC REFLECTION PROFILES AND HISTORIC HYDROGRAPHIC DATA
- P-3** (D) Ashley P. Hogan*¹, S. Moseman-Valtierra¹, M. Gomez - Chiarri²
¹Department of Biological Sciences, University of Rhode Island, Kingston, RI
²Department of Fisheries, Animal & Veterinary Sciences, University of Rhode Island, Kingston, RI.
EXAMINING *CRASSOSTREA VIRGINICA* DENITRIFICATION RATES: HOW DOES PROLONGED EXPOSURE TO CONTRASTING ENVIRONMENTAL FACTORS INFLUENCE THE EFFICIENCY OF NITROGEN REMOVAL?
- P-4** (W) John Desmond for: P. Moley, M. Alldred, J. Haviland, J. Desmond*, R. Reigle H. Shah, and S. B. Baines
Department of Ecology and Evolution, Stony Brook University, Stony Brook, NY.
PLANT GROWTH AND SEASONAL DENITRIFICATION IN WETLANDS
- P-5** (D) Sarah L Croce* and M. R. Fregeau
Department of Biology, Salem State University, Salem, MA.
DENSITY DISTRIBUTION AND MOVEMENT OF THE COMMON PERIWINKLE (*LITTORINA LITTOREA*) IN THE PRESENCE OF THE PREDATORY SNAIL *NUCELLA LAPILLUS*
- P-6** Soren F. Dahl
Division of Marine Resources, New York State Department of Environmental Conservation, NY
NEW YORK SEAGRASS CONSERVATION AND MANAGEMENT CHALLENGES

- P-7** Jo-Marie Kasinak* and J.H. Mattei
Department of Biology, Sacred Heart University, Fairfield, CT
A UNIQUE APPROACH TO RESTORING COASTAL HABITATS; CAP HEAVY METALS, ABATE WAVE ENERGY AND ALLOW SUCCESSFUL HORSESHOE CRAB SPAWNING.
- P-8** Darron S. Kriegel*¹, P.L. Neubert¹, J. Ray²
¹Stantec Consulting Services, Inc. Woods Hole, MA
²APEX consulting services, LLC. Boston, MA.
TEMPERATURE SHIFTS AND WINTER FLOUNDER PHENOLOGY: CLIMATE CHANGE ADAPTATIONS

Ignite! Hot Topics in Estuarine Science

Chair: Cathy Wigand

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

- 4:30** (K) Yan Jia and M. M. Whitney
Department of Marine Sciences, University of Connecticut, CT.
INTO THE WEST OR ONTO THE SHELF? PATHWAYS OF THE CONNECTICUT RIVER WATER
- 4:40** (K) Elizabeth Q. Brannon*¹, S.K. Wigginton², B.V. Lancellotti², J.A. Amador², J.C. McCaughey³, G.W. Loomis⁴, and S.M. Moseman-Valtierra¹
¹Department of Biological Sciences, University of Rhode Island, Kingston, RI
²Department of Natural Resources Science, University of Rhode Island Kingston, RI
³Narragansett Bay Commission, Providence, RI
⁴New England Onsite Wastewater Training Center, University of Rhode Island, Kingston, RI.
NITROUS OXIDE FLUXES AND NITRIFIER AND DENITRIFIER GENE ABUNDANCE FROM NITROGEN REMOVAL TANKS AT CENTRALIZED AND ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS
- 4:50** Sara P. Grady*¹, C. Bianchi², and S. Woods³
¹Massachusetts Bays Program South Shore, NSRWA, Norwell, MA
²Noble and Greenough School, Dedham, MA
³North and South Rivers Watershed Association, Norwell, MA
ENHANCEMENT OF BLUE MUSSEL (MYTILUS EDULIS) POPULATIONS IN MASSACHUSETTS TIDAL RIVERS

- 5:00 NEERS Business Meeting & Presentation of Student Awards**
(Marine Sciences Building)
- 5:30 SOCIAL** (Marine Sciences Building)
- 7:00** Pizza and movie: *Ocean Frontiers III: Leaders in Ocean Stewardship & the New Blue Economy*. Film followed by facilitated group discussion. (Marine Sciences Building)
- or - Dinner on your own in Groton.
- 9:00** Music and dancing at a local venue

Saturday, March 18th

Estuarine Water Quality and Environmental Pollution

Chair: Sara Grady

*Presenter

- 9:00** Matthew Liebman
US EPA New England - Region 1, Boston, MA
COMPARISON OF NUTRIENT CONDITIONS IN GULF OF MAINE BAYS
- 9:15** Hans Laufer*¹, C. Yarish², J. Stuart^{3,4} and A. Provas⁴
¹Department of Molecular and Cell Biology
²Department of Ecology and Evolutionary Biology
³Department of Chemistry
⁴Center for Environmental Sciences & Engineering, University of Connecticut
IMPLICATIONS OF ALKYLPHENOLIC POLLUTION OF MACROALGAE IN
LONG ISLAND SOUND
- 9:30** Christopher F. Deacutis*¹, G. Cichetti², S. Coleman³, K. Ruddock³, W. Helt¹, J. Torgan³,
J. O'Brien³.
¹ Rhode Island Department of Environmental Management, Division of Fish & Wildlife,
Jamestown, RI
² U.S. EPA Atlantic Ecology Division, Narragansett, RI
³ The Nature Conservancy, Providence, RI.
THE URBANIZED NARAGANSETT BAY: THE PROVIDENCE AND SEEKONK
ESTUARINE TIDAL RIVERS POST CLEAN WATER ACT REGULATION: A SIGN
OF HOPE?
- 9:45** Noah M. Reid
Department of Molecular and Cell Biology, University of Connecticut, Storrs, CT
RAPID REPEATED EVOLUTION TO TOXIC POLLUTION IN *FUNDULUS*
HETEROCLITUS.
- 10:00 BREAK** (Marine Sciences Building)

Salt Marsh Restoration and Management

Chair: Craig Tobias

*Presenter

10:45 Mary Alldred*¹, T. Hoellein², D. Bruesewitz³, and C. Zarnoch¹

¹Baruch College, City University of New York, New York, NY

²Loyola University, Chicago, IL

³Colby College, Waterville, ME.

NITROGEN-REMOVAL SERVICES OF RESTORED SALT MARSHES IN
JAMAICA BAY (NEW YORK, NY)

11:00 Susan C. Adamowicz for: R. Donahue¹, M. Potter¹, S. C. Adamowicz^{2*}

¹Long Island National Wildlife Refuge Complex, Shirley, NY

²Rachel Carson National Wildlife Refuge, Wells, ME.

HURRICANE SANDY RESILIENCY EFFORTS AT SEATUCK NWR: SEDIMENT
ENRICHMENT USING OLD AND NEW DREDGED MATERIAL

11:15 Ron Rozsa

Ashford, CT.

LONG-TERM SALT MARSH CHANGE RESULTING FROM GRID DITCHING AT
BARN ISLAND, STONINGTON, CT

11:30 John M. Logan*, A. Davis, S. Voss, C. Markos, and K. H. Ford

¹Massachusetts Division of Marine Fisheries, 1213 Purchase Street, New Bedford, MA

DOCK AND PIER IMPACTS ON SALT MARSH VEGETATION IN
MASSACHUSETTS ESTUARIES

11:45 Closing Words – Sara Grady, NEERS President

Presentation of Stickleback Award

Workshop

Marine Sciences Building, room number will be announced at the meeting.

Box lunches will be available in the room; you must pre-order.

12:15 - 2:30 Workshop: Introduction to Living Shorelines

Led by Juliana Barrett of Connecticut Sea Grant College Program and
Jonathan Fogelson of Michael Singer Studio.