Thursday Symposium: Salt Marsh Response and Resilience to Changing Conditions - Prospects for Management

9:30 am ***Welcome and Overview***; Jennifer West, Narragansett Bay NERR

Setting the Stage

Salt Marsh Sustainability in New England: Progress and Remaining Challenges
Cathy Wigand, EPA

How are coastal marshes faring in New England?

RI - *Elizabeth Watson, Drexel University*
MA - *Marc Carullo, Massachusetts Coastal Zone Management Agency*
ME - *Susan Adamowicz, US Fish & Wildlife Service*
NH - *David Burdick, University of New Hampshire*
CT - *Scott Warren*

Break

How are we building coastal marsh resilience throughout the region?

Land conservation planning for marsh migration
Rachel Stevens, Great Bay NERR; Mark Stolt, University of Rhode Island
Upland Vegetation Removal as a Potential Strategy for Facilitating Salt Marsh Migration
Kenny Raposa, Narragansett Bay NERR
Thin-layer sediment placement
Caitlin Chaffee, RI Coastal Resources Management Council
Ditch remediation
Susan Adamowicz, US Fish & Wildlife Service; Dave Burdick, U. of New Hampshire
Long-term tidal wetland changes at Barn Island, Stonington, CT
Ron Rozsa, Community Plant Ecologist
Runnels and end-of-road restoration
Wenley Ferguson, Save The Bay

1:00 pm ***Lunch***

What monitoring and assessment strategies are being used in the region?

How models may be best applied by practitioners
Neil Ganju, United States Geological Survey
Monitoring with drones
Bob Hartzel, Comprehensive Environmental Inc.
Multimetric Indices for Integrated Assessments of Salt Marsh Integrity
Hilary Neckles, United States Geological Survey
NERRS monitoring and assessment
TBD
Green crab overabundance
Steve Smith, National Park Service

Break

Break-out group discussions

Wrap-up and evaluations

4:30 pm ***Adjourn***

Friday, April 27th	
8:00	Welcome and Introductory Remarks – Sue Adamowicz, NEERS President
	EDUCATION
8:15 AM	Berry*, W.J.(1) and K.K. Mulvaney (1) (1) U.S.EPA, Narragansett, RI. NEERS: NATURALLY, EFFECTIVE EDUCATION REQUIRES SILLINESS
8:30 AM	Spencer, L.T. (1) (1) Biological Sciences, Plymouth State University, Plymouth, NH. A LOOK BACK IN HISTORY: THE INTRODUCTION TO THE MARINE SCIENCES COURSE AND ITS RAMIFICATIONS ON MARINE SCIENCE EDUCATION IN NH.
	BLUE CARBON
8:45 AM	Stolt, M.H. (1) Department of Natural Resources Science, University of Rhode Island, Kingston, RI. CARBON ACCOUNTING IN ESTUARIES (BLUE CARBON)
9:00 AM	Forbrich, I. *(1), A.E. Giblin (1) and C.S. Hopkinson (2) (1) Marine Biological Laboratory (2) University of Georgia. CONSTRAINING MARSH CARBON BUDGETS USING LONG-TERM C BURIAL AND CONTEMPORARY ATMOSPHERIC CO2 FLUXES
9:15 AM	Barry*, A.B. (1), S.K. Ooi (1), A.M. Helton (1,2), C.S. Elphick (3), B. Steven (4), and B.A. Lawrence (1,2) (1) Department of Natural Resources and the Environment, University of Connecticut, Storrs, Connecticut; (2) Center for Environmental Science and Engineering, University of Connecticut, Storrs, Connecticut; (3) Department of Ecology & Evolutionary Biology, University of Connecticut, Storrs, Connecticut; (4)Department of Environmental Sciences, Connecticut Agricultural Experiment Station, New Haven, Connecticut. SALT MARSH VEGETATION INFLUENCE ON CARBON-BASED SERVICES
	SEDIMENT DYNAMICS IN COASTAL SYSTEMS
9:30 AM	Murphy, C.J. (1) and B.A. Oakley (1). (1) Department of Environmental Earth Science, Eastern Connecticut State University. POST-1900 SEDIMENT ACCUMULATION IN THE POINT JUDITH HARBOR OF REFUGE, POINT JUDITH, RHODE ISLAND
9:45 AM	Moore*, G.E. (1,2), D.M. Burdick (1,3), M.R. Routhier (4), A. Novak (5), and P. Phippen (6) (1) Jackson Estuarine Laboratory, University of New Hampshire, Durham, NH; (2) Dept. of Biological Sciences; (3) Dept. of Natural Resources; (4) Geospatial Science Center

	Earth Systems Research Center, Institute for the Study of Earth, Oceans, and Space; (5) Dept. of Earth and Environment, Boston University, Boston, MA; (6) MassBays National Estuary Program, Merrimack Valley Planning Commission, Haverhill, MA. DOCUMENTING THE EFFECTS OF A LARGE-SCALE NATURALLY-OCCURRING SEDIMENT DEPOSITION EVENT ON PLANT COMMUNITY STRUCTURE AND PRODUCTIVITY IN SALT MARSHES IN MASSACHUSETTS
10:00 AM	Hardy*, A. (1) and M. Stolt (1) Department of Natural Resources Science, University of Rhode Island. TIDAL MARSH RECOVERY AFTER NATURAL STORM-SURGE DEPOSITION AND INTENTIONAL DEPOSITION IN THIN-LAYER PLACEMENT MANAGEMENT
10:15 AM	BREAK
	ESTUARINE HABITATS
10:45 AM	Cicchetti*, G. (1) and E.J. Shumchenia (2) (1) U.S. EPA, Atlantic Ecology Division, Narragansett RI; (2) Great Lakes Environmental Center, Traverse City MI. THE CHANGING ECOLOGY OF NARRAGANSETT BAY AS TOLD BY HABITAT
11:00 AM	Barrett*, P.D.(1), W.S.K. Helt (2), H.A. Kinney (2), J.H.Grabowski (3), A.R. Hughes (3), and E.G. Schneider (1). Division of Marine Fisheries, Rhode Island Department of Environmental Management, Jamestown, RI 02835, USA; (2) The Nature Conservancy, Providence, RI 02906; (3) Marine Science Center, Northeastern University, Nahant, MA 01908, USA. IMPROVING JUVENILE FISH POPULATIONS BY ENHANCING FISH HABITAT – EVALUATING THE USE OF OYSTER REEFS AS A TOOL TO INCREASE FISH PRODUCTIVITY
11:15 AM	Nuhn*,H.A.(1), W.Helt(1),C.Deacutis(2),E.Shneider(2), and P.Barrett(2) (1)The Nature Conservancy, Providence,RI; (2) Rhode Island Department of Environmental Management, Division of Fish & Wildlife, Jamestown, RI. BENTHIC VIDEO MONITORING IN THE PROVIDENCE RIVER ESTUARY: APPLYING CMECS TERMINOLOGY TO EVALUATE SITE SUITABILITY FOR HABITAT RESTORATION
11:30 AM	Sebens, K. P. (1) and E.J. Maney* Jr. (2) (1) Department of Biology, University of Washington, Seattle, WA (2) Department of Biology, Salem State University, Salem, MA. DECADAL SCALE RESEARCH IN ROCKY SUBTIDAL HABITATS, MASSACHUSETTS BAY
	AQUACULTURE
11:45 AM	Parker*, K.(1), M. Condon (1), C. Jones (1), C. Byron (2), and A. St.Gelais(2) (1) Center for Excellence in the Marine Sciences, University of New England, Biddeford Maine, USA; (2) Department of Marine Sciences, University of New England, Biddeford Maine, USA. HISTOPATHOLOGICAL ANALYSIS OF PARASITES AND ENVIRONMENTAL

	STRESS RESPONSES OF FARMED BLUE MUSSELS (MYTILUS EDULIS) IN CASCO BAY, MAINE
12:00 PM	Hollandbeck*, M.G. (1), A. St. Gelais(2), O. Barberi(1), G. Grebe(3), K. Burkholder(4), and C.J. Byron(1) (1) Marine Science Department, University of New England, Biddeford, ME; (2) Center for Excellence in the Marine Sciences, University of New England, Biddeford, ME; (3) School of Marine Science, University of Maine, Orono, ME; (4) Biological Science, University of New England, Biddeford, ME. ESTABLISHING THE RELATIONSHIP BETWEEN COLIFORM AND VIBRIO BACTERIA SPECIES ON THE SURFACE OF FARMED SUGAR KELP SACCHARINA LATISSIMA AND IN SURROUNDING SEAWATER
12:15	Potti, P. (1) (1) Umass Dartmouth SMAST. COMPARING HISTORIC OYSTER POPULATIONS TO PRESENT DAY AQUACULTURE ACTIVITIES IN EAST COAST ESTUARIES
12:30 PM	LUNCH
1:30 – 3:00 PM	**POSTERS**
	NITROGEN DYNAMICS
3:00 PM	Ooi*, S.K (1), A. Barry (1), B. Lawrence (1), C. Elphick (1), and A. Helton (1) (1) University of Connecticut, Storrs CT. POTENTIAL DENITRIFICATION RATES VARY WITH SALT MARSH VEGETATION ZONES
3:15 PM	Unruh*, A. D. (1) and B.L. Howes (1) (1) Department of Estuarine and Ocean Science, UMass Dartmouth SMAST, New Bedford, MA. QUANTIFYING DENITRIFICATION IN FRESHWATER POND SEDIMENTS AS A SIGNIFICANT COMPONENT OF NITROGEN ATTENUATION IN CAPE COD, MA
3:30 PM	Vaudrey*, J.M.P. (1), E. Green-Beach (2), and R. Karney (2) (1) Department of Marine Sciences, University of Connecticut, Groton, CT; (2) Martha's Vineyard Shellfish Group, 220 Weaver Lane, Vineyard Haven MA. EVIDENCE FOR NITROGEN REMOVAL VIA PHYTOREMEDIATION WITH PHRAGMITES
3:45 PM	Labrie*, M.S. (1), D. Schlezinger (1), M. Sundermeyer (1), and B. Howes (1) (1) 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: YEAR TWO FINDINGS
4:00 PM	Sullivan*, H.L. (1), L.A. Deegan (1), B.J. Peterson (2), and A.E. Giblin (2). (1) Woods Hole Research Center (2) Marine Biological Laboratory. DETERMINING THE FATE OF LAND-DERIVED NITROGEN IN SALT MARSHES USING A ¹⁵N ISOTOPE TRACER EXPERIMENT

4:15	Babitch*, J.W. (1), J.A. Nelson (1) and B.A. Stauffer (1) (1) Department of Biology, University of Louisiana at Lafayette, Lafayette, LA. THE PLANKTONIC PIECE OF THE PIE: RESOLVING NITROGEN USE BY PHYTOPLANKTON IN A MESOTIDAL SALT MARSH OF PLUM ISLAND ESTUARY
	IGNITE: A WADER FULL OF TOPICS
4:30 PM	Anderson*, N.B. (1), F.T. Short (1), D.D. and Torio (1) Jackson Estuarine Laboratory, University of New Hampshire, Durham NH 03824, USA. THE EFFECT OF SIMULATED CDOM ON ZOSTERA MARINA GROWTH AND VITALITY
4:35 PM	Moore, E.C. (1) (1) Narragansett Bay Commission. BENTHIC VIDEO MONITORING IN THE PROVIDENCE RIVER ESTUARY - WHAT DO WE SEE?
4:40 PM	Stacey*, P.E.(1) (1)Footprints In The Water LLC, Moodus, CT. MAKING NATURE GREAT AGAIN: EPISODE II - THE PHANTOM MENACE
4:45 PM	Bradley*, M. (1), C. Schmidt (2) and G. Cicchetti (3) (1) University of Rhode Island (2) Narragansett Bay Estuary Program (3) U.S. EPA Atlantic Ecology Division. HISTORICAL CONTEXT OF THE TIER 1 SUBMERGED AQUATIC VEGETATION MAPPING EFFORTS IN NARRAGANSETT BAY
4:50 PM	**QUESTIONS**
	ONSITE WASTEWATER TREATMENT
5:00 PM	Boucher*, A. M.(1), B. Ross(1), S. Wigginton(1), and B. Lancellotti(1) (1)Laboratory of Soil Ecology and Microbiology, University of Rhode Island, Kingston, R.I. INVESTIGATING THE EFFECT OF MICROBIAL COMMUNITIES ON THE PERFORMANCE OF ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS
5:15 PM	Amador*, J.A. (1), J.H. Görres (2), G.W. Loomis (1,3), and B.V. Lancellotti (1,4). (1) Laboratory of Soil Ecology and Microbiology, Univ. of Rhode Island, Kingston, RI; (2) Dept. of Plant and Soil Science, Univ. of Vermont, Burlington, VT; (3) New England Onsite Wastewater Training Program, Univ. of Rhode Island, Kingston, RI' (4) Rubenstein School of Environment and Natural Resources, Univ. of Vermont, Burlington, VT. NITROGEN LOADING FROM ONSITE WASTEWATER TREATMENT SYSTEMS IN THE GREATER NARRAGANSETT BAY WATERSHED: MAGNITUDE AND REDUCTION STRATEGIES

5:30 PM	Ross*, B. (1), A. Boucher (1), J. Ludovico (1), K. Hoyt (1), G. Loomis (1), and J. Amador (1) (1) Department of Natural Resources Science, University of Rhode Island, RI. ASSESSING NITROGEN INPUTS TO THE CHARLESTOWN COASTAL WATERSHED FROM ADVANCED ONSITE WASTEWATER TREATMENT SYSTEMS

	SATURDAY, APRIL 28TH
	FACTORS AFFECTING MARSH STRUCTURE
8:00 AM	Dowling*, T. M. (1), G.P. Zogg (1), S.E. Travis (1), and P. A. Morgan (1) (1) University of New England, Biddeford, ME. FACTORS INFLUENCING THE GROWTH OF <I>SPARTINA PATENS<I> IN UPLAND SOIL
8:15 AM	Payne, A.R. (1) (1) Department of Natural Resources, University of New Hampshire. EFFECTS OF SEA LEVEL RISE ON SALT MARSH ELEVATION DYNAMICS IN NEW HAMPSHIRE SALT MARSHES
8:30 AM	Sheremet*, V. A. (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. CORE POROSITY AND CONE PENETRATION TESTING IN WAQUOIT BAY SAGE LOT MARSH
8:45 AM	Adamowicz, S.C. (1) and G. Wilson (2) (1) US Fish and Wildlife Service, Rachel Carson National Wildlife Refuge, Wells, ME (2) Northeast Wetland Restoration. FARMERS IN THE MARSH: AN OVERVIEW OF HISTORIC FARMING PRACTICES, PERSISTENT FEATURES, AND LASTING IMPACTS
9:00 AM	Lamb*, A.L (1), J.K. Kim (2), C. Yarish (3), and B.F. Branco (4) (1)Department of Earth and Environmental Sciences, The Graduate Center, City University of New York, 365 Fifth Avenue, New York, NY (2)Department of Marine Sciences, School of Natural Sciences, Incheon National University, 119 Academy-ro, Yeonsu-gu, Incheon, Republic of Korea Department of Marine Sciences, University of Connecticut-Stamford, 1 University Place, Stamford, CT (3)Department of Ecology and Evolutionary Biology, University of Connecticut, 1 University Place, Stamford, CT (4)Department of Earth and Environmental Sciences, Brooklyn College, City University of New York, 2900 Bedford Avenue, Brooklyn, NY. IDENTIFICATION OF THE BLOOM FORMING ULVA IN JAMAICA BAY, NEW YORK
	MARSH BIRDS
9:15 AM	checkMaxwell*, L.M.(1), J. Walsh (2), B.J. Olsen (3), and A.I. Kovach (4) (1) Department of Natural Resources and the Environment,University of New Hampshire,Durham,NH; (2) Fuller Evolutionary Biology Program,Cornell

	Laboratory of Ornithology,Ithaca,NY; (3) School of Biology & Ecology, University of Maine,Orono,ME; (4) Department of Natural Resources and the Environment, University of New Hampshire, Durham, NH. NESTING ADAPTATIONS AND FITNESS IN A HYBRIDIZING POPULATION OF SALTMARSH AND NELSON'S SPARROWS
9:30 AM	checkBenvenuti*, B.A. (1) and K.M. O'Brien (1) (1) Rachel Carson National Wildlife Refuge, Wells, ME. CONSERVATION AND MANAGEMENT OF MAINE'S TIDAL MARSH BIRDS
9:45 AM	BREAK
	MAPPING COASTAL CHANGE
10:00 AM	Borrelli, M. (1,2) (1) School for the Environment, University of Massachusetts, Boston, MA (2) Center for Coastal Studies, Provincetown, MA. A NEW METHOD FOR CALCULATING RATES OF SHORELINE CHANGE IN A COASTAL EMBAYMENT WITH FRINGING SALT MARSH
10:15 AM	Lavallee*, K. D. (1) and M.B. Adams (1) (1) National Park Service, Cape Cod National Seashore, 99 Marconi Site Road, Wellfleet, MA 02667. COASTAL CHANGE ALONG THE OUTER CAPE: APPLICATION OF THE DIGITAL SHORELINE ANALYSIS SYSTEM (DSAS) TO MAP THE DYNAMIC SHORELINE OF CAPE COD NATIONAL SEASHORE
10:30 AM	Mangolds*, A. C-2 Innovations, Inc. AUTONOMOUS BROAD AREA SEAFLOOR MAPPING
	WATER QUALITY
10:45 AM	Schmidt*, C.E.(1) and K. Cortes (2) (1) Narragansett Bay Estuary Program, Providence, RI (2) Narragansett Bay Commission, Providence, RI. STANDING ON THE SHOULDERS OF GIANTS (AND PICKING THE LOW-HANGING FRUIT) – UPDATING THE NARRAGANSETT BAY WATERSHED NUTRIENT BUDGET

11:00 AM	Berounsky*, V.M.(1), A. DeSilva (1,2), E. Peterson (2), R. Sharif (2), L. Green (3), and E. Herron (3) (1) Graduate School of Oceanography, University of Rhode Island, Narragansett, RI; (2) Narrow River Preservation Association, Saunderstown, RI; (3) Watershed Watch Program, University of Rhode Island, Kingston, RI. MONITORING WATER QUALITY AND MANAGING ANTHROPOGENIC INPUTS FOR A QUARTER CENTURY (1992-2017) IN THE PETTAQUAMSCUTT ESTUARY (RI) WITH COMPARISONS TO 1970'S DATA AND LOWER NARRAGANSETT BAY DATA.
11:15 AM	Comeau, C.R. (1) (1) Narragansett Bay Commission, Providence, RI. LONG TERM MONITORING OF TWO WATER QUALITY SITES IN THE UPPER NARRAGANSETT BAY: A TREND ANALYSIS
11:30 AM	Price*, A.M. (1), R.E. Turner (1), V. Pospelova (2), G.L. Chmura (3), M.R.S. Coffin (4), J.S. Latimer (5), and N.N. Rabalais (6). (1) Department of Oceanography and Coastal Sciences, Louisiana State University, Baton Rouge, LA; (2) School of Earth and Ocean Sciences, University of Victoria, Victoria, BC; (3) Department of Geography, McGill University, Montreal, QC; (4) Department of Biology, University of Prince Edward Island, Charlottetown, PEI; (5) US Environmental Protection Agency, Narragansett, RI; (6) Louisiana Universities Marine Consortium, Chauvin, LA. MONITORING WATER QUALITY IN NORTHWEST ATLANTIC COASTAL WATERS USING DINOFLAGELLATE CYSTS
11:45 PM	**AWARDS**
	FIELD TRIPS