



# NEERS SPRING 2013 MEETING

April 11 – 13, 2013

The Clarion Hotel, Portland, Maine

## Hosted By

Bates College, Rachel Carson National Wildlife Refuge, Casco Bay Estuary Partnership  
*Local organizers: Bev Johnson, Susan Adamowicz, Will Ambrose, Curtis Bohlen, Laura Sewall*

## Platinum Supporter

Coastal and Estuarine Research Federation

## Gold Supporters

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# Bates



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LIFE IN WATER

## MEETING PROGRAM

*All events at the Clarion Hotel unless noted otherwise  
All oral and poster sessions are in the Gallery Room*

### Thursday, April 11<sup>th</sup>

12:00 – 1:00 pm	Meeting registration (Gallery Room)
1:00 – 5:30 pm	Current Coastal Research: A Symposium in Honor of Michele Dionne
5:30 – 6:30 pm	Meeting Registration (Gallery Room)
5:30 – 7:00 pm	Welcoming Social (Captain's Room)

### Friday, April 12<sup>th</sup>

6:30 – 7:30 am	Yoga (Clarion pool area)
7:00 – 8:00 am	Meeting registration (Gallery Room)
8:00 – 10:05 am	Oral presentations: Responses to Multiple Scales of Change
10:25 am – 12:05 pm	Oral presentations: Nutrient Loads to Estuaries
12:05 pm – 1:05 pm	Lunch (Chart Room; seating in Pete and Larry's)
1:05 pm – 2:25 pm	Oral presentations: Faunal Populations of Concern
2:25 pm – 4:15 pm	Poster presentations
4:15 pm – 5:35 pm	Oral presentations: Growth and Behavior of Coastal Fauna
5:40 pm – 6:15 pm	NEERS Business Meeting (Gallery Room)
6:45 pm	First bus to Banquet Center for pre-banquet enjoyment of Old Port
7:15 pm	Last bus to Mariner's Church Banquet Center
7:30 pm – 9:30 pm	NEERS Awards Banquet (Mariner's Church Banquet Center/Old Port Tavern, 11 Moulton St.)
9:30 pm – ??	Music and dancing at Old Port location to be announced
9:30 pm – 1:00 AM	Return buses to Clarion Hotel will depart from Long Wharf on Commercial St. (front of DiMillo's) at 9:30 PM, 11:00 PM, midnight, and 1:00 AM

### Saturday, April 13<sup>th</sup>

8:00 – 10:00 am	Oral presentations: Understanding and Restoring Ecosystem Function
10:20 am – 12:20 pm	Oral presentations: Assessing and Predicting Ecosystem Services
12:45 pm	Field trip departure (personal vehicles) – anadromous fish / fish passage restoration sites along the Presumpscot River and Mill Creek

**Thursday, April 11<sup>th</sup>**

**SPECIAL SYMPOSIUM:**

**"Current Coastal Research: A Symposium in Honor of Michele Dionne"**

Dr. Michele Dionne was a major influence on many scientists, educators and conservationists working in New England coastal ecosystems. She and her colleagues made significant advances in (1) developing indicators for assessing the ecological status of salt marshes, (2) understanding the nutrient dynamics and foodweb ecology of various coastal habitats, and (3) studying the processes of tidal wetland degradation and restoration. The goals of this symposium are to honor Michele's work in coastal ecosystems.

Chair: Robert Buchsbaum

\*Presenter

- 1:00** Welcome – Bev Johnson  
Department of Geology, Bates College, Lewiston, ME
- 1:05** Introduction – Paul Dest  
Director, Wells National Estuarine Research Reserve
- 1:15** Belknap, Daniel F.  
School of Earth and Climate Sciences, University of Maine, Orono, ME  
SALT MARSH RECORDS OF HOLOCENE SEA-LEVEL CHANGE IN MAINE
- 1:35** Burdick\*, David M.<sup>1</sup>, S. Adamowicz,<sup>2</sup> C. Peter,<sup>1</sup> and M. Dionne<sup>3</sup>  
<sup>1</sup>Jackson Estuarine Laboratory, Univ. of New Hampshire, Durham, NH  
<sup>2</sup>USFWS Rachel Carson NWR, Wells, ME  
<sup>3</sup>Wells National Estuarine Research Reserve, Wells, ME  
RECENT ACCRETION AND SUBSIDENCE RATES WITHIN HIGH MARSHES OF  
NORTHERN NEW ENGLAND
- 1:55** Chmura, Gail L.  
Dept. of Geography and Global Environmental and Climate Change Centre, McGill  
University, QC  
WHAT WE SHOULD KNOW BEFORE MARKETING BLUE CARBON
- 2:15** Gedan, Keryn B.  
Biology Department, University of Maryland, College Park, MD  
HISTORICAL AND PRESENT CHANGES IN SALT MARSH PLANT COMMUNITY  
STRUCTURE
- 2:35** Dionne, M., Tin Smith\*, and J. Aman  
Wells National Estuarine Research Reserve, Wells, ME  
RESTORING FISH PASSAGE TO A TRIBUTARY OF THE SALMON FALLS  
RIVER
- 2:55** **BREAK**

- 3:15** Alexander, Karen E.  
Ocean Process Analysis Lab, University of New Hampshire, NH, and  
Department of Environmental Conservation, University of Massachusetts, Amherst, MA  
HISTORICAL CHANGE IN NEW ENGLAND'S COASTAL OCEAN
- 3:35** Johnson\*, Beverly J.<sup>1</sup>, C. M. Harris<sup>1,2</sup>, W. G. Ambrose, Jr.<sup>2</sup>, B. J. Bourque<sup>3</sup>, R. S. Steneck<sup>4</sup>, P. T. Dostie<sup>1</sup>, and W. L. Locke V<sup>2</sup>  
Bates College Departments of <sup>1</sup>Geology, <sup>2</sup>Biology, and <sup>3</sup>Anthropology, Lewiston, ME  
<sup>4</sup>Darling Marine Center, University of Maine, Walpole, ME  
ENHANCED IMPORTANCE OF NUTRIENTS DERIVED FROM EELGRASS IN NEARSHORE FOODWEBS BETWEEN 5000 and 400 YEARS AGO, PENOBSCOT BAY, GULF OF MAINE
- 3:55** Smith\*, Leslie M.<sup>1</sup>, C. McManus<sup>2</sup>, H. Stoffel<sup>3</sup>, J. Krumholz<sup>4</sup>, and C. Oviatt<sup>3</sup>  
<sup>1</sup>Your Ocean Consulting, LLC, Knoxville, TN; <sup>2</sup>RPS ASA, South Kingstown, RI  
<sup>3</sup>Graduate School of Oceanography, University of Rhode Island, Narragansett, RI  
<sup>4</sup>NOAA/NMFS, Milford, CT  
HYPOXIA, NUTRIENTS, AND CLIMATE CHANGE IN NARRAGANSETT BAY
- 4:15** Vincent\*, Robert E.<sup>1</sup>, D. M. Burdick<sup>1</sup>, and M. Dionne<sup>2</sup>  
<sup>1</sup>University of New Hampshire Jackson Estuarine Laboratory, Durham, NH  
<sup>2</sup>Wells National Estuarine Research Reserve, Wells, ME  
LEGACIES OF DITCHING AND DITCH-PLUGGING IN NEW ENGLAND SALT MARSHES: LONG-TERM EFFECTS ON HYDROLOGY, ELEVATION, AND SOIL CHARACTERISTICS
- 4:35** Neckles\*, Hilary A.<sup>1</sup>, G. R. Guntenspergen<sup>2</sup>, W. G. Shriver<sup>3</sup>, N. P. Danz<sup>4</sup>, W. A. Wiest<sup>3</sup>, J. L. Nagel<sup>4</sup>, J. H. Olker<sup>5</sup>, and S. C. Adamowicz<sup>6</sup>  
<sup>1</sup>USGS Patuxent Wildlife Research Center, Augusta, ME; <sup>2</sup>USGS PWRC Duluth, MN  
<sup>3</sup>Univ. of Delaware, Newark, DE; <sup>4</sup>USGS PWRC Laurel, MD  
<sup>5</sup>Univ. of Minnesota, Duluth, MN; <sup>6</sup>USFWS Rachel Carson NWR, Wells, ME  
MONITORING SALT MARSH INTEGRITY TO INFORM CONSERVATION DECISIONS: METRICS, METHODS, AND MODELS

## **5:00 SYMPOSIUM POSTERS**

\* Presenter; **(D)** Dean Prize candidate for best graduate student poster,

**(W)** Warren Prize candidate for best undergraduate student poster

- (S-1)** Dionne, M.<sup>1</sup>, Jeremy Miller\*<sup>1</sup>, and T. Dubay<sup>2</sup>  
<sup>1</sup>Wells National Estuarine Research Reserve, Wells, ME  
<sup>2</sup>University of New England Biddeford, ME  
ICHTHYOPLANKTON AND ENVIRONMENTAL MONITORING IN A MAINE ESTUARY
- (S-2)** **(D)** Gárate\*, Melanie H. and S. M. Moseman  
Department of Biological Sciences, University of Rhode Island, Kingston, RI  
FIDDLER CRABS AND EXCESS NUTRIENTS MAY INCREASE GREENHOUSE GAS FLUXES WITHIN SALT MARSH SEDIMENT

- (S-3) Martin\*, April and W. Prell  
Department of Geological Sciences, Brown University, Providence RI  
THE SPATIAL AND TEMPORAL DISTRIBUTION OF BENTHIC FORAMINIFERA  
IN NARRAGANSETT BAY
- (S-4) (W) Novak\*, Ashleigh J., L. A. Whitefleet-Smith, C. E. Little, and J. A. Sulikowski  
Department of Marine Sciences, University of New England, Biddeford, ME  
MOVEMENT AND DIET OF THE ATLANTIC STURGEON (*ACIPENSER  
OXYRINCHUS*) IN THE SACO RIVER ESTUARY
- (S-5) Prell, Warren  
Department of Geological Sciences, Brown University, Providence RI  
A REASSESSMENT OF THE FRESH WATER FLUSHING TIME FOR  
NARRAGANSETT BAY WITH A FOCUS ON SUMMERTIME CONDITIONS
- (S-6) (W) Reynolds\*, Julia M., K. M. Smith, and J. A. Sulikowski  
Department of Marine Sciences, University of New England, Biddeford, ME  
PRELIMINARY OBSERVATIONS OF THE LARVAL FISH ASSEMBLAGE IN THE  
SACO RIVER
- (S-7) Tilburg\*, Christine M.<sup>1</sup>, A. Elskus<sup>2</sup>, J. Latimer<sup>3</sup>, K. Parlee<sup>4</sup> and P. Wells<sup>5</sup>  
<sup>1</sup>Gulf of Maine Council on the Marine Environ. EcoSystem Indicator Partnership,  
Falmouth, ME; <sup>2</sup>USGS Leetown Science Center, Orono, ME  
<sup>3</sup>US EPA ORD NHEERL, Atlantic Ecology Division, Narragansett RI  
<sup>4</sup>Sustainable Communities and Ecosystem Initiatives, Environment Canada, Dartmouth,  
NS; <sup>5</sup>Bay of Fundy Ecosystem Partnership, Halifax, NS  
POLLUTION INDICATORS IN THE GULF OF MAINE: STATUS AND TRENDS

**5:30 NEERS WELCOMING SOCIAL** (Captain's Room)

**7:00** Dinner on your own in Portland

## Friday, April 12<sup>th</sup>

**6:30 – 7:30** Morning yoga (Clarion pool area)

**8:00** Welcome and Introductory Remarks – John Brawley, NEERS President

### Responses to Multiple Scales of Environmental Change: From Dredging to Climate

Chair: John Brawley

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

**(R)** Rankin Prize candidate for best undergraduate student presentation

- 8:05 (K)** Harder\*, Timothy M.<sup>1</sup>, G. C. L. David<sup>2</sup>, T. W. Arienti<sup>1</sup>, S. M. Gill<sup>1</sup>, and C. E. Tilburg<sup>1</sup>  
<sup>1</sup>Dept. of Marine Sci. and Marine Sci. Center, Univ. of New England, Biddeford, ME  
<sup>2</sup>Dept. of Earth and Oceanographic Sci., Bowdoin College, Brunswick, ME  
CHANNEL MORPHOLOGY SHIFTS WITHIN THE SACO RIVER ESTUARY,  
MAINE

- 8:25 (K)** Russell\*, Ellen, M. DaCosta, and B. Xing  
 Departments of Plant and Soil Sciences, Univ. of Massachusetts, Amherst, MA  
*SPARTINA ALTERNIFLORA* PRODUCTIVITY IN RELATIONSHIP TO ESTUARY  
 INLET DREDGING IN ELLISVILLE MARSH, PLYMOUTH, MA
- 8:45 (R)** Lee, Louisa  
 Department of Biology, Bates College, Lewiston, ME  
 GROWTH PATTERS OF THE SURF CLAM *SPISULA SOLIDISSIMA* FROM MAINE
- 9:05 (K)** Salazar, Camilo E.  
 School of Marine and Atmospheric Sciences, Stony Brook University, NY  
 A REMOTE SENSING APPROACH TO STUDY WATER LEVEL CHANGES IN  
 LAKE TURKANA AS A RESPONSE TO CLIMATE VARIABILITY
- 9:25 (K)** Pearson\*, Abby O.<sup>1</sup> and K. A. Wilson<sup>2</sup>  
<sup>1</sup>Environmental Studies Program, Colby College, Waterville, ME  
<sup>2</sup>Department of Environmental Science, University of Southern Maine, Gorham, ME  
 APPROACHES TO RESTORATION: ASSESSING THE ROLES OF STRUCTURE  
 AND FUNCTIONALITY IN SALTMARSH RESTORATION IN LIGHT OF  
 CLIMATE CHANGE
- 9:45 (R)** Pickoff\*, Margaret, B. Johnson, and P. Dostie  
 Department. of Geology, Bates College, Lewiston, ME  
 MAINE'S BLUE CARBON: ESTIMATING MARINE CARBON STOCKS IN MAINE  
 SALT MARSHES

**10:05 BREAK**

**Nutrient Loads to Estuaries - Sources, Transformations, and Consequences**

Chair: John Brawley

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

- 10:25 (K)** Schmidt\*, Courtney E., R. S. Robinson, and S. W. Nixon  
 Graduate School of Oceanography, University of Rhode Island, Narragansett, RI  
 ANTHROPOGENIC NITROGEN SOURCES TO NARRAGANSETT BAY: A  
 STABLE ISOTOPE STUDY
- 10:45 (K)** Feinman\*, Sarah, P. Kearns, and J. Bowen  
 University of Massachusetts Boston, Biology Department  
 THE EFFECTS OF URBANIZATION AND SEASONAL CHANGE ON MICROBIAL  
 COMMUNITY COMPOSITION AND NITROGEN CYCLING CAPACITY IN  
 ESTUARINE WATER COLUMNS AND SEDIMENT
- 11:05 (K)** Brin\*, Lindsay D.<sup>1,2</sup>, A. E. Giblin<sup>2</sup> and J. J. Rich<sup>1</sup>  
<sup>1</sup>Department of Ecology and Evolutionary Biology, Brown University, Providence, RI  
<sup>2</sup>Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA  
 EFFECTS OF EXPERIMENTAL WARMING AND CARBON ADDITION ON  
 NITRATE REDUCTION AND RESPIRATION IN COASTAL SEDIMENTS

**11:25 (K)** Jessen\*, Brita J.<sup>1</sup>, D.S. Johnson<sup>2</sup>, R. E. Rossi<sup>3</sup>, and C.A. Oviatt<sup>1</sup>  
<sup>1</sup>Graduate School of Oceanography, University of Rhode Island, Narragansett, RI  
<sup>2</sup>The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA  
<sup>3</sup>U.S. EPA-Atlantic Ecology Division, Narragansett, RI  
EFFECT OF NUTRIENT ENRICHMENT ON LITTER DECOMPOSITION IN A  
COASTAL MANGROVE SYSTEM

**11:45 (K)** McNamara\*, Marianne E., D. J. Lonsdale, and R. M. Cerrato  
Stony Brook University. School of Marine and Atmospheric Science, Stony Brook, NY  
THE ROLE OF EUTROPHICATION IN STRUCTURING PLANKTONIC  
COMMUNITIES IN THE PRESENCE OF THE CTENOPHORE *MNEMIOPSIS LEIDYI*  
(AGASSIZ 1865)

**12:05 – 1:05 LUNCH** (Chart Room)

### **Faunal Populations of Concern -- Invasive, Rare, and Commercial Species**

Chair: Steve Hale

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

**(R)** Rankin Prize candidate for best undergraduate student presentation

**1:05 (R)** Bringley\*, Kathleen M.<sup>1</sup>, M. L. Judge<sup>1</sup>, and N. J. O'Connor<sup>2</sup>  
<sup>1</sup>Manhattan College, Riverdale, NY  
<sup>2</sup>University of Massachusetts Dartmouth, N. Dartmouth, MA  
PREDICTING INVASION DYNAMICS: A COMPARISON OF COMPETITION  
MODELS FOR MARINE SPECIES

**1:25 (K)** Savaria\*, Michael C. and N. J. O'Connor  
Department of Biology, University of Massachusetts Dartmouth, MA  
PREDATION OF THE INVASIVE ASIAN SHORE CRAB, *HEMIGRAPUS*  
*SANGUINEUS*, BY A NATIVE FISH PREDATOR, THE CUNNER,  
*TAUTOGOLABRUS ADSPERSUS*

**1:45 (K)** Whitefleet-Smith\*, Laura A.<sup>1</sup>, C. E. Little<sup>1</sup>, G. S. Wippelhauser<sup>2</sup>, G. B. Zydlewski<sup>3</sup>,  
M. T. Kinnison<sup>3</sup>, A. J. Novak<sup>1</sup>, and J. A. Sulikowski<sup>1</sup>  
<sup>1</sup>Marine Science and Education Center, University of New England, Biddeford, ME  
<sup>2</sup>Maine Department of Marine Resources, Augusta, ME  
<sup>3</sup>School of Marine Sciences, University of Maine, Orono, ME  
MOVEMENT PATTERNS OF ATLANTIC AND SHORTNOSE STURGEON IN THE  
SACO RIVER, ME

**2:05** Smith\*, Kayla M. and J. A. Sulikowski  
Department of Marine Sciences, University of New England, Biddeford, ME  
EVALUATING THE SACO BAY ESTUARY SYSTEM AS A NURSERY GROUND  
FOR COMMERCIALY VALUABLE AND ECOLOGICALLY IMPORTANT FISH  
SPECIES

## 2:25 POSTER SESSION

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

### Estuarine Invertebrates: Distribution, Metabolism, Growth, and Aquaculture

- (I-1) (W) Borland, Gabriel  
Department of Biology, Bates College, Lewiston, ME  
TIMING OF GROWTH LINE DEPOSITION IN THE SOFT-SHELL BIVALVE *MYA ARENARIA*
- (I-2) (D) Eddy\*, Elizabeth N.<sup>1</sup> and C. T. Roman<sup>2</sup>  
<sup>1</sup>Graduate School of Oceanography, University of Rhode Island, Narragansett, RI  
<sup>2</sup>National Park Service, University of Rhode Island, Narragansett, RI  
CHARACTERIZING THE BENTHIC INVERTEBRATE COMMUNITIES OF THE MIXED-COARSE INTERTIDAL HABITAT IN BOSTON HARBOR
- (I-3) (W) Eller, Amanda R.  
Bates College, ME  
EXTENDED CHRONOLOGY OF *SERRIPES GROELANDICUS* FROM A HIGH-ARCTIC FJORD ON SVALBARD, NORWAY
- (I-4) (W) LaRosa, Stephanie R.  
Department of Biology, Bates College, Lewiston, ME  
GROWTH VARIABILITY AND HEAVY METAL CONCENTRATIONS IN *MARGARITIFERA MARGARITIFERA* FROM KARPELVA FJORD, NORWAY
- (I-5) (W) Lawson, Elizabeth A.  
Department of Biology, Bates College, Lewiston, ME  
DETERMINATION OF *MYTILUS EDULIS* GROWTH FROM KONGSFJORD IN SVALBARD, NORWAY
- (I-6) (W) Mauck, Henry A.  
Department of Biology, Bates College, Lewiston, ME  
A COMPARATIVE STUDY OF THE SOFT-SHELLED CLAM (*MYA ARENARIA*) IN NEW ENGLAND SINCE 1981
- (I-7) (W) Rypl\*, Christopher J. and M. L. Judge  
Department of Biology, Manhattan College, Riverdale, NY  
ETHANOL REDUCES METABOLIC RATE IN THE MARINE GASTROPOD, *LITTORINA LITTOREA*

### Ecology and Management of Salt Marsh Ecosystems

- (M-1) Duff\*, Elizabeth B.<sup>1</sup>, R. N. Buchsbaum<sup>1</sup> and D.M Burdick<sup>2</sup>  
<sup>1</sup>Mass Audubon, Wenham, MA  
<sup>2</sup>Jackson Estuarine Laboratory, University of New Hampshire, Durham, NH  
RESULTS OF VEGETATION, NEKTON AND SALINITY SAMPLING AT THE NORTH POOL OF THE PRNWR 2001-2012: EFFECTS OF WATER MANAGEMENT



- (M-2) (W)** Eno\*, Lauren<sup>1</sup>, M. Simon<sup>1</sup>, S. Travis<sup>2</sup>, and G. Zogg<sup>2</sup>  
 Departments of <sup>1</sup>Environmental Studies and <sup>2</sup>Biology, University of New England, ME  
 THE EFFECTS OF SEA-LEVEL RISE, WARMING, AND THE HOME-FIELD  
 ADVANTAGE ON *SPARTINA ALTERNIFLORA* DECOMPOSITION
- (M-3)** Kryczka\*, Roselyn J.<sup>1</sup> and G.L. Chmura<sup>2</sup>  
<sup>1</sup>B. Sc. Program in Biochemistry, McGill University, Montreal, QC  
<sup>2</sup>Department of Geography, McGill University, Montreal, QC  
 WHICH SALT MARSH PLANT SPECIES NEED NITROGEN TO DEAL WITH  
 OSMOTIC STRESS?
- (M-4) (D)** Martin\*, Rose M. and S. Moseman-Valtierra  
 Department of Biology, University of Rhode Island, Kingston, RI  
 A MANIPULATIVE EXPERIMENT TESTS THE EFFECT OF INVASIVE  
 PHRAGMITES AUSTRALIS AND NITROGEN ENRICHMENT ON GREENHOUSE  
 GAS FLUXES
- (M-5) (D)** Simon\*, Matt<sup>1</sup>, S. Travis<sup>1</sup>, G. Zogg<sup>1</sup>, and P. E. Stacey<sup>2</sup>  
<sup>1</sup>University of New England, Dept. of Biological Science, Biddeford, ME  
<sup>2</sup>Great Bay National Estuarine Research Reserve, Durham, NH  
 EFFECTS OF INCREASED TEMPERATURE AND SEA LEVEL RISE ON  
 SEDIMENT MICROBIAL COMMUNITY FUNCTION AND STRUCTURE IN A  
 NEW HAMPSHIRE SALTMARSH

### **Estuarine Interactions and Trophic Dynamics**

- (T-1) (D)** Bogomolni, A.<sup>1,2</sup>, R. A. DiGiovanni, Jr.<sup>3</sup>, G. Early<sup>4</sup>, K. Matassa<sup>5</sup>, Owen C. Nichols\*<sup>6</sup>, L. Sette<sup>6</sup> and S. Wood<sup>7</sup>  
<sup>1</sup>Woods Hole Oceanographic Institution, Woods Hole, MA; <sup>2</sup>University of Connecticut, Department of Pathobiology, Storrs, CT; <sup>3</sup>Riverhead Foundation for Marine Research and Preservation, Riverhead, NY; <sup>4</sup>Integrated Statistics, Woods Hole, MA; <sup>5</sup>University of New England, Marine Animal Rehabilitation Center, Biddeford, ME; <sup>6</sup>Center for Coastal Studies, Provincetown, MA; <sup>7</sup>Sudbury, MA  
 A COLLABORATIVE APPROACH TO UNDERSTANDING THE ECOLOGICAL  
 ROLE OF SEALS IN THE NORTHEAST US
- (T-2) (D)** Guidoboni\*, Christina M. and N. J. O'Connor  
 Department of Biology, University of Massachusetts Dartmouth, North Dartmouth, MA  
 ATTRACTION OF CRABS TO MATERIALS USED IN BIVALVE AQUACULTURE
- (T-3) (W)** Kasprzyk\*, Timothy M.<sup>1</sup>, A. M. Young<sup>1,2</sup>, B. Warren<sup>2</sup>, J. Smith<sup>2,3</sup>, and R. Buchsbaum<sup>2,4</sup>  
<sup>1</sup>Biology Department, Salem State University, Salem MA  
<sup>2</sup>Salem Sound Coastwatch, Salem MA; <sup>3</sup>Mass. Office of Coastal Zone Management  
<sup>4</sup>Massachusetts Audubon  
 ECOLOGICAL HEALTH ASSESSMENT OF SALEM SOUND VIA BIRD CENSUS  
 DATA

- (T-4) (W) Morrison\*, Rachel C.<sup>1</sup>, B. J. Johnson<sup>1</sup>, B. J. Bourque<sup>2</sup>, P. T. Dostie<sup>1</sup>, and N. D. Hamilton<sup>3</sup>  
<sup>1</sup>Dept. of Geology, Bates College, Lewiston, ME  
<sup>2</sup>Maine State Museum, Augusta, ME  
<sup>3</sup>Dept. of Geography and Anthropology, University of Southern Maine, Gorham, ME  
ISOTOPIC RECONSTRUCTIONS OF SWORDFISH DIETS IN THE GULF OF MAINE

### **Ecology and Restoration of Submerged Vegetation: Eelgrass and Macroalgae**

- (V-1) Disney\*, Jane E.<sup>1</sup>, E. Fox<sup>1</sup>, S. White<sup>1</sup>, G. Kidder<sup>1</sup>, and G. Sato<sup>2</sup>  
<sup>1</sup>MDI Biological Laboratory, Salisbury Cove, ME  
<sup>2</sup>The Manzanar Project, Wenham, MA  
COMMUNITY-BASED EELGRASS RESTORATION IN FRENCHMAN BAY: A CONSERVATION SUCCESS STORY
- (V-2) (W) Dootz\*, Jennifer<sup>1</sup>, J. M. P. Vaudrey<sup>1</sup>, C. Pickerell<sup>2</sup>, S. Schott<sup>2</sup>, K. Manzo<sup>2</sup>, B. Udelson<sup>2</sup> and N. Krupski<sup>2</sup>  
<sup>1</sup>Department of Marine Sciences, University of Connecticut, Groton, CT  
<sup>2</sup>Cornell Cooperative Extension, Suffolk County, NY  
COMPARISON OF THE HABITAT CHARACTERISTICS OF A SUCCESSFUL AND FAILED EELGRASS (*ZOSTERA MARINA* L.) RESTORATION TEST PLANTING
- (V-3) (W) Duball\*, Chelsea<sup>1</sup>, B. J. Jessen<sup>2</sup>, and C.A. Oviatt<sup>2</sup>  
<sup>1</sup>College of the Environment and Life Sciences, Univ. of Rhode Island, Kingston, RI  
<sup>2</sup>Graduate School of Oceanography, Univ. of Rhode Island, Narragansett, RI  
BENTHIC MACROALGAE RESPONSE TO NUTRIENT ENRICHMENT IN A CARIBBEAN MANGROVE SYSTEM

### **Hydrodynamic and Water Quality Modeling**

- (H-1) Dettmann, Edward H.  
USEPA, ORD, NHEERL, Atlantic Ecology Division, Narragansett, RI  
IMPORTANCE OF DISSOLVED ORGANIC NITROGEN TO WATER QUALITY IN NARRAGANSETT BAY
- (H-2) McAlpin, T. O., J. V. Letter, F. C. Carson, and Robert McAdory\*  
US Army Corps of Engineers Research and Development Center - Coastal and Hydraulics Laboratory, Vicksburg, MS  
VALIDATION OF THE MORGANZA TO THE GULF OF MEXICO ADAPTIVE HYDRUALIC NUMERICAL MODEL: SEA LEVEL RISE, SALINITY AND INUNDATION EFFECTS IN THE PRESENCE OF FLOOD CONTROL MEASURES
- (H-3) Rashleigh\*, Brenda, M. Abdelrhman S. Ayvazian, L. Charlestra, E. Dettmann, T. Gleason, J. Grear, M. Mazzotta, S. Robinson, G. Thursby, and H. Walker  
USEPA, ORD, NHEERL, Atlantic Ecology Division, Narragansett, RI  
QUANTITATIVE MODELS FOR ECOSYSTEM ASSESSMENT IN NARRAGANSETT BAY: RESPONSE TO NUTRIENT LOADING AND OTHER STRESSORS

- (H-4)** Tilburg\*, Charles E., L. Jordan, and S. I. Zeeman  
Department of Marine Sciences, University of New England, Biddeford, ME  
THE EFFECT OF PHYSICAL MECHANISMS ON WATER QUALITY IN SACO BAY

### **Nutrient Transport and Transformations**

- (N-1)** **(W)** Chiao\*, Chester<sup>1</sup>, B. Johnson<sup>1</sup>, P. Dostie<sup>1</sup>, and T. V. Willis<sup>2</sup>  
<sup>1</sup>Department of Geology, Bates College, Lewiston, ME  
<sup>2</sup>Aquatic Systems Group, University of Southern Maine, Portland, ME  
THE EFFECTS OF 2012 ALEWIFE MIGRATION ON NUTRIENT DYNAMICS IN NEQUASSET LAKE, WOOLWICH, ME
- (N-2)** **(D)** Hiller\*, Kenly A. and J. L. Bowen  
Department of Biology, University of Massachusetts Boston, Boston, MA  
COMMUNITY COMPOSITION AND ABUNDANCE OF DENITRIFYING BACTERIA INSIDE A PERMEABLE REACTIVE NITREX BARRIER
- (N-3)** **(D)** Kearns\*, Patrick J., J. H. Angell, S. G. Feinman, and J. L. Bowen  
Department of Biology, University of Massachusetts Boston, Boston, MA  
NITROGEN LOADING IN THE GREAT SIPPEWISSETT MARSH ALTERS COMMUNITY COMPOSITION AND DIVERSITY OF TWO GENES IN THE DENITRIFICATION PATHWAY
- (N-4)** **(W)** Walker\*, Robert T.<sup>1</sup>, L. E. Heffner<sup>2</sup> and S. W. Nixon<sup>2</sup>  
<sup>1</sup>Biological Science Department, University of Rhode Island, Kingston, RI  
<sup>2</sup>Graduate School of Oceanography, University of Rhode Island, Narragansett, RI  
EFFECTS OF LIGHT INTENSITY AND NUTRIENT POLLUTION ON AUTOTROPHIC NITROGEN FIXATION IN RHODE ISLAND SALT MARSHES

## **4:15 ORAL PRESENTATIONS RESUME**

### **Growth and Behavior of Coastal Fauna**

Chair: Steve Hale

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

**(R)** Rankin Prize candidate for best undergraduate student presentation

- 4:15** **(R)** Johnson, Hansen D.  
Department of Biology, Bates College, Lewiston, ME  
USING STABLE ISOTOPE ANALYSIS TO DETERMINE THE FEEDING BEHAVIOR OF THE WRYMOUTH (*CRYPTACANTHODES MACULATUS*) IN SOFT-SEDIMENT SYSTEMS OF COASTAL MAINE

- 4:35 (K) Kennedy\***, Cristina G.<sup>1</sup>, M.E. Mather<sup>2</sup>, and J.M. Smith<sup>3</sup>  
<sup>1</sup>Dept. of Environmental Conservation, University of Massachusetts, Amherst, MA  
<sup>2</sup>Kansas Cooperative Fish and Wildlife Unit, Kansas State University, Manhattan, KS  
<sup>3</sup>School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA  
**HABITAT HETEROGENEITY CONCENTRATES PREDATORS IN THE SEASCAPE: LINKING INTERMEDIATE-SCALE ESTUARINE HABITAT TO STRIPED BASS DISTRIBUTION**
- 4:55 (K) Meserve\***, Molly<sup>1</sup>, K. Ono<sup>1</sup>, N. Perlut<sup>2</sup>, and D. D'Auria<sup>3</sup>  
<sup>1</sup>Department of Marine Sciences, University of New England, Biddeford, ME  
<sup>2</sup>Department of Environmental Studies, University of New England, Biddeford, ME  
<sup>3</sup>Maine Department of Inland Fisheries and Wildlife, Bangor, ME  
**BROOD PROVISIONING RATES IN THREE GREAT BLUE HERON (*ARDEA HERODIAS*) COLONIES IN MAINE: WHAT IS THE RECIPE FOR SUCCESS?**
- 5:15 (K) Thomas\***, Amber R. and K. Ono  
 Department of Marine Sciences, University of New England, Biddeford ME  
**FROM THE OCEAN TO A POOL: EFFECTS OF CAPTIVITY ON THE EARLY LIFE DEVELOPMENT OF MATERNALLY ABANDONED HARBOR SEAL PUPS**
- 5:40– 6:15 BUSINESS MEETING**
- 6:45** First bus to Mariner's Church Banquet Center/Old Port Tavern for people who want to enjoy Old Port before the banquet
- 7:15** Last bus to Mariner's Church Banquet Center/Old Port Tavern for banquet
- 7:30** Awards Banquet – Mariner's Church Banquet Center, 11 Moulton St., Portland  
 Presentation of Awards for Best Student Papers
- 9:30** Music and dancing at location to be determined
- 9:30 PM – 1:00 AM** Return buses to Clarion Hotel will leave from Long Wharf on Commercial St. (front of DiMillo's) at 9:30 PM, 11:00 PM, midnight, and 1:00 AM

## Saturday, April 13<sup>th</sup>

### Understanding and Restoring Ecosystem Function

Chair: Jamie Vaudrey

\*Presenter

- 8:00** Wigand\*, Cathleen<sup>1</sup>, A. Hanson<sup>1</sup>, R. Johnson<sup>1</sup>, A. Oczkowski<sup>1</sup>, E. Watson<sup>1</sup>, E. Davey<sup>1</sup>, E. Markham<sup>1</sup>, and S. Corman<sup>2</sup>  
<sup>1</sup>US EPA, NHEERL, Atlantic Ecology Division, Narragansett, RI  
<sup>2</sup>Brown University, Providence, RI  
**RESPONSE OF *SPARTINA ALTERNIFLORA* TO SEA LEVEL RISE, CHANGING PRECIPITATION PATTERNS, AND EUTROPHICATION**

- 8:20** Browne, James P.  
Conservation and Waterways, Town of Hempstead, NY  
THE MULTI-DECADAL FATE OF MAN MADE DITCHES OVER A SPATIAL  
NUTRIENT GRADIENT
- 8:40** Branco\*, Brett F.<sup>1</sup>, C. B. Zarnoch<sup>2</sup>, M. C. Hassett<sup>3</sup>, T. J. Hoellein<sup>3</sup>, and D. A. Bruesewitz<sup>4</sup>  
<sup>1</sup>Earth and Environmental Sciences, Brooklyn College, Brooklyn, NY  
<sup>2</sup>Department of Natural Sciences, Baruch College, New York, NY  
<sup>3</sup>Department of Biology, Loyola University Chicago, Chicago, IL  
<sup>4</sup>Environmental Studies Program, Colby College, Waterville, ME  
HYDRODYNAMIC INFLUENCES ON NITROGEN CYCLING AT A RESTORED  
EASTERN OYSTER (*CRASSOSTREA VIRGINICA*) REEF IN A EUTROPHIC  
ESTUARY
- 9:00** Geoghegan\*, Paul and R. Helmers  
Normandeau Associates, Bedford, NH  
THE RELATIONSHIP BETWEEN LARVAL DENSITY OF SOFT-SHELL CLAM  
*MYA ARENARIA* AND DENSITY OF YOUNG-OF-THE-YEAR IN HAMPTON  
HARBOR, NEW HAMPSHIRE
- 9:20** Whitney\*, Michael M., P. Vlahos, J. Elmoznino, and A. Kowalski  
Department of Marine Sciences, University of Connecticut, Groton, CT  
MODELING PERFLUORINATED COMPOUNDS IN THE HOUSATONIC  
ESTUARY AND LONG ISLAND SOUND
- 9:40** Mattei\*, Jennifer H.<sup>1</sup>, M. A. Beekey<sup>1</sup>, and A. Leenders<sup>2</sup>  
<sup>1</sup>Department of Biology, Sacred Heart University, Fairfield, CT  
<sup>2</sup>President & CEO, Roger Tory Peterson Institute, Jamestown, NY  
STRATFORD POINT RESTORATION: FROM GUN CLUB TO COASTAL DUNE  
HABITAT

**10:00 BREAK**

**Assessing and Predicting Ecosystem Services**

Chair: Jamie Vaudrey

\*Presenter

- 10:20** Bohlen, Curtis C.  
Casco Bay Estuary Partnership, Muskie School of Public Service, Univ. of Southern  
Maine, Portland, ME  
USING LIDAR TO ASSESS TIDAL WETLAND RESTORATION OPPORTUNITIES  
IN AN ERA OF RISING SEAS
- 10:40** Watson\*, Elizabeth B.<sup>1</sup>, C. Wigand<sup>1</sup>, H. Andrews<sup>2</sup>, and K. B. Raposa<sup>3</sup>  
<sup>1</sup>Atlantic Ecology Division, U.S. Environmental Protection Agency, Narragansett, RI  
<sup>2</sup>Miami University, Oxford, OH  
<sup>3</sup>Narragansett Bay National Estuarine Research Reserve, Prudence Island, RI  
RHODE ISLAND SALT MARSHES: ELEVATION CAPITAL AND RESILIENCE TO  
SEA LEVEL RISE

- 11:00** Cole Ekberg\*, Marci L.<sup>1</sup>, W. S. Ferguson<sup>1</sup>, and K. Raposa<sup>2</sup>  
<sup>1</sup>Save The Bay, Providence, RI  
<sup>2</sup>Narragansett Bay National Estuarine Research Reserve, Prudence Island, RI  
A GLIMPSE OF THE FUTURE: DEVELOPING A SALT MARSH ASSESSMENT  
FOCUSED ON THE IMPACTS OF RAPID SEA LEVEL RISE
- 11:20** Berry\*, Walter J., M. Nightingale, and M. J. Mazzotta  
USEPA, ORD, NHEERL, Atlantic Ecology Division, Narragansett, RI  
FIELD TESTING OF AN EXPERT MODEL: CAN THE MODEL PREDICT HABITAT  
POTENTIAL FOR SALTMARSH BIRDS?
- 11:40** Buchsbaum, Robert N.  
Mass Audubon, Wenham, MA  
HABITAT SELECTION AND ACTIVITY PATTERNS OF EGRETS IN THE PLUM  
ISLAND SOUND ESTUARY, NORTHEASTERN, MA
- 12:00** Feurt, Christine B.  
Department of Environmental Studies, UNE and Wells NERR  
NOBODY SAID THIS WOULD BE EASY - CHALLENGES OF TRANS-  
DISCIPLINARY RESEARCH TO VALUE ECOSYSTEM SERVICE
- 12:20** Closing remarks – John Brawley, NEERS President
- 12:30** Adjourn
- 12:45** Field trip departure to anadromous fish / fish passage restoration sites along the Presumpscot River and Mill Creek. We will use personal vehicles to visit several fish-passage restoration sites in the Portland area, with brief walks to look at the unique aspects of each site. Exact locations are still being lined up but will likely include examples of dam removal (with lovely ½-hour round trip walk to reach it), fish ladders, and culvert replacement/addition of fish passage structures. Details will be posted on the NEERS website.