

NEERS SPRING 2007 MEETING PROGRAM

Meeting Synopsis

Thursday, May 3: 12:00 PM – 8:00 PM

Meeting Registration, Special Macrotidal Estuary Symposium, Welcoming Social

Friday, May 4: 7:00 AM – 9:00 PM (or beyond)

Meeting Registration, Contributed Oral Presentations, Lunch, Poster Session, Business Meeting, Social and more poster viewing, NEERS Awards Banquet, Dancing at Gray's Wharf

Saturday, May 5: 8:00 AM – 12:00 PM plus optional Estuarine Cruise

Contributed Oral Presentations, Concluding Remarks, Estuarine Cruise

Thursday, May 3, 2007

12:00 PM – 1:00 PM	Meeting Registration (Opera House 2 nd Floor)
1:00 PM – 5:10 PM	Macrotidal Estuaries Symposium (Gallery Room)
5:00 PM- 6:00 PM	Meeting Registration (Opera House 2 nd Floor)
5:10 PM– 8:00 PM	Welcoming Social (Antique Barroom)

SPECIAL SYMPOSIUM

New England's Other Estuaries:

The Functioning of Rock-bound, Boreal, Macrotidal Estuaries

Session Chair = Peter Larsen, Bigelow Laboratory

- 1:00** Welcome and Introductory Remarks – Peter Larsen
- 1:05** The Nature Conservancy Perspective – Barbara Vickery, TNC in Maine
- 1:15** Brooks, David A.
Department of Oceanography, Texas A&M University, College Station, TX 77845
CIRCULATION AND MIXING IN A CANCELLED COAST: THE ISLANDS, BAYS, RIVERS AND ESTUARIES OF CENTRAL MAINE
- 1:55** Kelley*, Joseph T. and A. R. Kelley
University of Maine, Department of Earth Sciences, Orono, ME 04469
SEAFLOOR SEDIMENTS OF GLACIATED, ROCK-FRAMED ESTUARIES IN THE GULF OF MAINE: DEPARTURES FROM CONVENTIONAL MODELS
- 2:25** Wildish, D. J.¹, Gerhard W. Pohle*², H. M. Akagi¹, and D.L. McKeown³
¹Fisheries and Oceans Canada, Biological Station, St. Andrews, NB
²Atlantic Reference Centre, Huntsman Marine Science Centre, St. Andrews, NB
³Fisheries and Oceans Canada, Bedford Institute of Oceanography, Bedford, NS
CHARACTERIZATION AND REFERENCE SITE COMPARISON OF POCKMARKS IN THE BAY OF FUNDY
- 2:45** **BREAK**
- 3:00** Brown*, Curtis¹, R. Wahle², and K. Hovel³
¹University of Maine, Darling Marine Center, Walpole, ME 04573

²Bigelow Laboratory for Ocean Sciences, W. Boothbay Harbor, ME 04575

³Dept. Biology, San Diego State University, San Diego, CA 92182

SPATIAL AND TEMPORAL PATTERNS OF PREDATION ON THE AMERICAN LOBSTER, *HOMARUS AMERICANUS*, ACROSS NEW ENGLAND'S BIOGEOGRAPHIC TRANSITION ZONE

3:20 Vadas, R. L., Sr¹ and Brian F. Beal*²

¹Dept. Biological Sciences/School of Marine Sciences, University of Maine, Orono, ME

²Div. of Environmental and Biological Sci., Univ. of Maine at Machias, Machias, ME
MACROALGAL PRODUCTIVITY IN COBSCOOK BAY

3:40 Buzeta*, Maria-Ines¹, P. Lawton¹, and J. C. Roff²

¹St. Andrews Biological Station, St. Andrews NB Canada

²Acadia University, Wolfville NS Canada

DEVELOPING A MODEL FOR IDENTIFICATION OF PRIORITY CONSERVATION AREAS FOR HARD SUBSTRATE, NEAR-SHORE BENTHIC COMMUNITIES OF THE QUODDY REGION, BASED ON RELATIONSHIPS BETWEEN SPECIES AND ENVIRONMENTAL FACTORS

4:00 Trott, Thomas J. L.

R. S. Friedman Field Station, Biology Dept., Suffolk University, Boston MA 02114
MONITORING INTERTIDAL COMMUNITY DIVERSITY: FAUNAL SHIFTS, LOCAL EXTINCTIONS, AND ABUNDANCE VARIATIONS

4:20 Harris, Larry

Department of Zoology, University of New Hampshire, Durham, NH 03824
OBSERVATIONS ON SPATIAL AND TEMPORAL PATTERNS OF INTRODUCED INVERTEBRATE SPECIES IN COBSCOOK BAY AND THEIR IMPACTS ON THE SYSTEM

4:40 Campbell, Daniel E.

USEPA, Office of Research and Development, National Health and Environmental Effects Research Laboratory, Atlantic Ecology Division, Narragansett, RI 02882
APPLYING ENERGY SYSTEMS THEORY TO THE STUDY OF MARINE AND ESTUARINE SYSTEMS

5:10 Closing Remarks – Peter Larsen

5:10 – 8:00 PM NEERS Welcoming Social, Opera House Antique Barroom

Friday, May 4, 2007

7:00 AM – 8:30 AM Meeting Registration (Lobby)

8:10 – 12:00 PM Oral Presentations (Main Auditorium)

12:00 PM – 1:15 PM Lunch (Main Auditorium)

12:00 PM – 1:15 PM Executive Committee Meeting (Gallery Room)

1:15 – 2:15 PM Poster Presentations (Gallery Room)

2:15 – 5:15 PM Oral Presentations (Main Auditorium)

5:15 – 6:00 PM NEERS Business Meeting (Main Auditorium)

6:00 – 7:00 PM NEERS Social (Antique Barroom)

7:00 – 9:00 PM Banquet and Awards Presentations (Gallery Room)

9:00 PM-??? Listening and Dancing to the Zac Tyler Band at Gray's Wharf

ORAL PRESENTATIONS

Session Chair = Robert Buchsbaum, Mass Audubon

* denotes presenter, **(K)** denotes Ketchum Prize candidate, **(R)** denotes Rankin Prize candidate

- 8:10** Welcome and Introductory Remarks – Robert Buchsbaum, NEERS President
- 8:20** Jiang*, Mingshun and M. Zhou
Department of Environmental, Earth, and Ocean Sciences, Univ. of Massachusetts
Boston, 100 Morrissey Blvd., Boston, MA 02125
MODELING AND FORECASTING PHYSICAL ENVIRONMENT IN BOSTON
HARBOR, MASSACHUSETTS BAY AND CAPE COD BA
- 8:40** **(R)** LeBeau*, Colette, J. Boucher, and L. Sahl
Maine Maritime Academy, Castine, ME 04420
VARIATION IN THE LOCATION AND INTENSITY OF THE ESTUARINE
TURBIDITY MAXIMUM IN THE PENOBSCOT BAY, MAINE, WITH TIDE
- 9:00** Berounsky*, Veronica M. and S.W. Nixon
Graduate School of Oceanography, University of Rhode Island, Narragansett, RI 02882
THE IMPACT OF HISTORICAL AND RECENT ANTHROPOGENIC NITROGEN
INPUTS ON THE WATER QUALITY OF THE PETTAQUAMSCUTT RIVER
ESTUARY (WASHINGTON COUNTY, RI)
- 9:20** Dettmann*, Edward H.¹, and P. Trowbridge²
¹U.S. Environmental Protection Agency, Office of Research and Development, National
Health and Environmental Effects Research Laboratory, Atlantic Ecology Division,
Narragansett, RI; ²New Hampshire Department of Environmental Services, Concord, NH
USE OF AN ANALYTIC MASS BALANCE MODEL TO CALCULATE
CONCENTRATIONS OF TOTAL NITROGEN IN THE GREAT BAY ESTUARY
- 9:40** **(R)** apRoberts-Warren, N., Dale Bowring*, T. Carr, and C. Lanni
Wheaton College, MA 02766
STATISTICAL ANALYSIS OF PATHOGEN LEVELS IN SHELLFISHING WATERS
AROUND THE PECONIC BAY REGION
- 10:00** **BREAK**
- 10:20** **(R)** Speers*, Ann E.¹, W.G. Ambrose, Jr.¹, E. Sypitkowski¹, and C. Bohlen²
¹Bates College Dept. of Biology, 56 Campus Ave., Lewiston, ME 04240
²Colby Coll. Dept. of Environ. Studies, 4881 Mayflower Hill Dr., Waterville, ME 04901
LONG- AND SHORT-TERM EFFECTS OF BAITWORM (*GLYCERA*
DIBRANCHIATA) DIGGING ON NUTRIENT CYCLING IN THE INTERTIDAL
FLATS OF MAINE, USA
- 10:40** **(R)** Woll*, Christine L.¹, W.G. Ambrose¹, E. Sypitkowski¹, and C. Bohlen²
¹Department of Biology, Bates College, Lewiston, ME 04240
²Department of Environmental Studies, Colby College, Waterville, ME 04901
EFFECTS OF BAITWORM *GLYCERA DIBRANCHIATA* HARVESTING ON
INFAUNAL DENSITY AND DIVERSITY ON TWO INTERTIDAL MUDFLATS IN
MID-COAST MAINE
- 11:00** **(K)** Fox*, Sophia E.¹, M. Teichberg¹, Y. Olsen¹, I. Valiela^{1,2}, and L. Heffner³

¹Boston University Marine Program, Marine Biological Laboratory, Woods Hole, MA

²The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA

³Graduate School of Oceanography, University of Rhode Island, Narragansett, RI
THE EFFECTS OF HYPOXIA ON BENTHIC COMMUNITY COMPOSITION AND
FOOD WEB RELATIONSHIPS

11:20 (K) Henry*, Kelly M., and S.W. Nixon

Graduate School of Oceanography, University of Rhode Island, Narragansett, RI 02882
CHANGING GROWTH RATES OF THE QUAHOG, *MERCENARIA MERCENARIA*,
IN NARRAGANSETT BAY, RI: A TUG OF WAR BETWEEN INCREASING WATER
TEMPERATURE AND DECREASING CHLOROPHYLL CONCENTRATION

11:40 Kidder, George W.

Mt. Desert Island Biol. Labs, Box 35, Old Bar Harbor Rd., Salisbury Cove, ME 04672
OBSERVATION OF AQUATIC ORGANISMS WITH SCHLIEREN OPTICS

12:00 – 1:15 LUNCH

1:15 – 2:15

POSTER PRESENTATIONS

* denotes presenter, **(W)** denotes Warren Prize candidate

Bannon*, Rebecca O.¹, and C.T. Roman²

¹Environmental Data Center, University of Rhode Island, Kingston, RI 02881

²National Park Service, University of Rhode Island, Narragansett, RI 02882

USING STABLE ISOTOPES TO MONITOR ANTHROPOGENIC NITROGEN
INPUTS TO ESTUARIES

(W) Doleac*, Jessa L.¹, W.G. Ambrose Jr.², E. Sypitkowski³, and C. Bohlen⁴

^{1,2,3}Department of Biology, Bates College, Lewiston, ME 04240

⁴Colby College, Environmental Studies, Waterville, ME 04901

LONG-TERM CHANGES IN *GLYCERA DIBRANCHIATA* ABUNDANCE AT A
PROTECTED MUDFLAT IN WISCASSET, MAINE, USA AND THE EFFECTS OF
COMMERCIAL BAITWORM DIGGING ON BENTHIC COMMUNITIES

Evans*, N. Tay, and S. S. Cunningham

Massachusetts Division of Marine Fisheries, 30 Emerson Avenue, Gloucester, MA 01930

THE IMPACTS OF BOATING INFRASTRUCTURE ON SOFTSHELL CLAM (*MYA
ARENARIA*) POPULATION STRUCTURE AND HABITAT CHARACTERISTICS

(W) Feinberg*, Lucas S.¹, W. G. Ambrose Jr.¹, E. Sypitkowski¹, and C. Bohlen²

¹Bates College Department of Biology, Lewiston Maine, 04240

²Colby College Department of Environmental Studies, Waterville, Maine 04901

EFFECTS OF BAITWORM DIGGING AND EPIBENTHIC PREDATION ON THE
SOFT SHELLED CLAM *MYA ARENARIA* GROWTH AND SURVIVAL

Greenlaw, M.¹, Maria-Ines Buzeta*², S.Burq³, and A.A.Mackay⁴

¹Acadia University, Sackville NB

²St. Andrews Biological Station, NB

³Nomad Labs, Australia

⁴St. Croix Estuary Project, St. Stephen NB

SIGNIFICANT AREA MAPPING AND BENTHIC COMPLEXITY ANALYSIS IN THE

QUODDY REGION

Hale, Stephen S.

Atlantic Ecology Division, Office of Research and Development, U.S. Environmental Protection Agency, Narragansett, RI 02882

BIOGEOGRAPHY, ECOINFORMATICS, AND THE SPECIES DATABASE OF THE U.S. NATIONAL COASTAL ASSESSMENT

(W) Henkes*, Gregory A.¹, B. J. Johnson², W. G. Ambrose¹, K. W. McMahon³, and M. L. Carroll⁴

¹Department of Biology, Bates College, Lewiston, ME. 04240

²Department of Geology, Bates College, Lewiston, ME 04240

³MIT-WHOI Joint Program in Biological Oceanography, Woods Hole, MA 02543

⁴Avkaplan-Niva, Polar Environmental Center, Tromso, Norway

SHIFTS IN THE $\delta^{13}\text{C}$ SIGNAL OF GREENLAND COCKLE, *SERRIPES GROENLANDICUS*, SHELL ORGANIC MATTER: AN INDICATION OF INTRA- AND INTER- ANNUAL CHANGES IN PRIMARY PRODUCTION IN THE ARCTIC OCEAN

Kelsey*, Samuel¹, J. Tucker¹, A. Giblin¹, C. Hopkinson¹, and B. Howes²

¹The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, 02543

²University of Massachusetts, Dartmouth, MA

LONG TERM RESPONSES OF SEDIMENTS IN BOSTON HARBOR TO CHANGES IN SEWAGE TREATMENT.

Moore, Slade B.

979 River Road, Bowdoinham, ME 04008

INTEGRATION OF FINE-SCALE SCIENCE AND LOCAL KNOWLEDGE TO SUPPORT DEVELOPMENT OF COMPREHENSIVE, ECOSYSTEM-BASED NEARSHORE MANAGEMENT: LESSONS FROM THE TAUNTON BAY ESTUARY

Morgan*, Pamela A.¹, J. Miller², and C. Dalton³

¹Dept. of Environmental Studies, University of New England, Biddeford, ME 04005

²Wells National Estuarine Research Reserve, Wells, ME 04090

³Town of York, ME 04090

INDICATORS OF FRINGING SALT MARSH ECOLOGICAL FUNCTION THAT ARE RESPONSIVE TO SHORELINE DEVELOPMENT PRESSURES: DEVELOPING A USEFUL TOOL FOR RESOURCE MANAGERS

(W) Noblitt IV*, G. Carl, and B. J. Johnson

Department of Geology, Bates College, Lewiston, Maine 04240

STABLE CARBON AND NITROGEN ISOTOPES IN MOLLUSK TISSUE AND SHELL ORGANIC MATTER: POTENTIAL TRACERS OF PRIMARY PRODUCTION IN THE NEAR SHORE GULF OF MAINE

O'Brien*, Kathleen M.¹, G.W. Shriver², and M.J. Ducey³

¹USFWS, Rachel Carson National Wildlife Refuge, 321 Port Road, Wells, ME 04090

²Univ. of Delaware, 257 Townsend Hall, Dept. of Entomology & Wildlife Ecology, Newark, DE 19716-2160

³Univ. of New Hampshire, Dept. of Natural Resources, Durham, NH 03824

SURVEYING AVIAN COMMUNITIES WITHIN SALT MARSH HABITATS: THE IMPORTANCE OF TIDE, VISIBILITY AND TIME OF DAY

Sypitkowski*, Eben P.¹, W.G. Ambrose¹, and C. Bohlen²

¹Department of Biology, Bates College, Lewiston, ME

²Environmental Studies Department, Colby College, Lewiston, ME

USING AERIAL PHOTOGRAPHY TO QUANTIFY THE SPATIAL AND TEMPORAL
EXTENT OF WORM DIGGING

(W) Warren*, Joseph¹, W.G. Ambrose Jr.¹, E. Sypitkowski¹, and C. Bohlen²

¹Department of Biology, Bates College, Lewiston, ME 04240

²Department of Environmental Studies, Colby College, Waterville, ME 04901

HARVEST SIZE, GROWTH, AND HARVEST EFFICIENCY OF THE BLOODWORM
(*GLYCERA DIBRANCHIATA*) FROM INTERTIDAL MUD FLATS IN MID-COAST
MAINE

ORAL PRESENTATIONS

Session Chair = Pam Neubert, ENSR

* denotes presenter, (K) denotes Ketchum Prize candidate, (R) denotes Rankin Prize candidate

2:15 (K) Teichberg*, Mirta T.¹, S. E. Fox¹, C. Aguila^{1,2}, Y. Olsen¹, and I. Valiela¹

¹Boston University Marine Program and Ecosystems Center, Marine Biological
Laboratory, Woods Hole, MA 02540

²University of Connecticut, Storrs-Mansfield, CT 06269

RESPONSE OF *ULVA LACTUCA* AND *GRACILARIA TIKVAHIAE* TO NITRATE AND
AMMONIUM ENRICHMENT IN WAQUOIT BAY, MASSACHUSETTS

2:35 (K) Olsen*, Ylva S.¹, L. C. Hofmann², S. Fox¹, and I. Valiela¹

¹Boston University Marine Program, Woods Hole, MA

²St Mary's College of Maryland, St Mary's City, MD

HOW DOES SEAGRASS SHOOT DENSITY AND NITROGEN LOAD AFFECT
FAUNAL COMPOSITION IN WAQUOIT BAY, MA?

2:55 (R) Campos*, Adam, and R. S. Warren

Department of Botany, Connecticut College, New London, CT 06320

BRACKISH MARSH MACROINVERTEBRATE COMMUNITIES OVER SIX YEARS
OF PHRAGMITES CONTROL

3:15 Warren*, R. Scott¹, C. Grobe², and A. H. Brawley¹

¹Connecticut College, New London, CT; ²Westfield State College, Westfield, MA
RECOVERY OF BRACKISH MARSH PLANT COMMUNITIES FOLLOWING
PHRAGMITES CONTROL

3:35 **BREAK**

3:55 (K) Hazelton*, Eric L. G., T. A. Theodose, and T. J. Knight

Biology Department, University of Southern Maine, Portland, ME 04103

PARTITIONING OF GLUTAMINE SYNTHETASE IN *SPARTINA* GRASSES

4:15 (K) Peter*, Christopher R., and D.M. Burdick

Department of Natural Resources, University of New Hampshire, Durham, NH 03820
CAN COMPETITION AND DIVERSITY REDUCE THE SUCCESS OF INVASIVE
PHRAGMITES AUSTRALIS IN A TIDAL MARSH?

- 4:35 (K)** Fox*, Liza R., and I. Valiela
Boston University Marine Program, Woods Hole, MA 02543
LONG-TERM CHANGES IN SALT MARSH VEGETATION: EFFECTS OF
CHRONIC NUTRIENT ENRICHMENT AND SEA-LEVEL RISE
- 4:55 (K)** Jones*, Laura J.¹ and K. Wilson²
¹Biology Department, ²Aquatic Systems Group, University of Southern Maine, Portland,
ME 04103
LIMITED HALOPHYTE RECRUITMENT IN A HYDRAULICALLY RESTORED
SALT MARSH: FIRST-YEAR COLONIZATION OF SHERMAN MARSH
- 5:15 NEERS BUSINESS MEETING**
- 6:00 SOCIAL & POSTER VIEWING**
- 7:00 NEERS AWARDS BANQUET**
Presentation of Student Presentation Awards
- 9:00** Listening and Dancing to the **Zac Tyler Band** at Gray's Wharf

Saturday, May 5, 2007

- 8:10 AM – 12:00 PM Oral Presentations
1:00 – 4:00 PM Field trip – Estuarine cruise

ORAL PRESENTATIONS

Session Chair = Pam Morgan, University of New England

* denotes presenter

- 8:10** Gather for session
- 8:20** Osher*, Laurie J.¹, J.T. Goodrich¹, and S. Barker²
¹Dept. of Plant, Soil and Environmental Science, University of Maine, Orono, ME 04469
²Maine State Department of Marine Resources, Boothbay Harbor, ME
CHANGES IN EELGRASS (*ZOSTERA MARINA*) DISTRIBUTION IN TAUNTON
BAY, MAINE (1955-2005)
- 8:40** Moore*, Slade B.^{1,2} and S. Perrin³
¹Maine Dept. of Marine Resources, P.O. Box 8, West Boothbay Harbor, ME 04575
²Current Address: 979 River Road, Bowdoinham, ME 04008
³Friends of Taunton Bay, P.O. Box 585, Bar Harbor, ME 04609
SEASONAL MOVEMENTS AND RESOURCE-USE PATTERNS OF THE
HORSESHOE CRAB IN A GULF OF MAINE ESTUARY
- 9:00** Perrin, Stephen
Friends of Taunton Bay, P.O. Box 585, Bar Harbor, ME 04609
FACTORS AFFECTING NUMBERS OF SPAWNING HORSESHOE CRABS IN
EGYPT BAY NEAR THE NORTHERN EDGE OF THEIR RANGE

9:20 Carullo*, Marc¹, V. Valentine², F. Pavri², B.K. Carlisle¹, M. Tranes², M. Zwetsloot², D. Sampson¹, and T.L. Millette³

¹Massachusetts Office of Coastal Zone Management, Boston, MA 02114

²University of Southern Maine, Gorham, ME 04038

³Mount Holyoke College, South Hadley, MA 01075

REMOTE SENSING OF ESTUARINE MARSH VEGETATION

9:40 Burn*, Peter R.¹, R. Sampson¹, V. Duong², V. Santivi anes², and D. Zinoviev² ¹Department of Biology, Suffolk University, 41 Temple St., Boston, MA 02114 ²Department of Math and Computer Science, Suffolk University, Boston, MA

THE DIGITAL CAMERA AS FIELD NOTEBOOK: SHARING MORE THAN PHOTOS FROM PLUM ISLAND

10:00 BREAK

10:20 Cheney*, Donald¹, M. Brudner¹, D. Aulisio², K. Gardner², and J. White³

¹Biology Dept., Northeastern University, Boston, MA

²Dept. Chem. Engineering, Univ. of New Hampshire, Durham, NH

³Conn. Agric. Experiment Station, New Haven, CT

SEAWEED REMOVAL AND REMEDIATION OF ORGANIC POLLUTANTS FROM MARINE SEDIMENTS

10:40 Smith, J. P.¹, and Marc Carullo*²

¹Massachusetts Bays National Estuary Program, ²Massachusetts Office of Coastal Zone Management, 251 Causeway Street, Boston, MA 02114

SURVEY OF POTENTIAL MARSH DIEBACK SITES IN COASTAL MASSACHUSETTS

11:00 Elmer, Wade H.

The Connecticut Agric. Experiment Station, P. O. Box 1106, New Haven, CT 06504
PATHOGENICITY OF *FUSARIUM* SPECIES TO *SPARTINA ALTERNIFLORA*

11:20 Buchsbaum*, Robert N.¹, J. Horowitz², L. Deegan², R. H. Garritt², J. Ludlam³, and D. Shull³

¹Massachusetts Audubon Society, Wenham, MA 01984

²The Ecosystems Center, Woods Hole, MA 02543

³Gordon College, Wenham, MA 01984

WHAT SALT MARSH HAYING TELLS US ABOUT THE ECOLOGY OF SALT MARSHES

11:40 Adamowicz*, Susan C.¹, and L. Wagner²

¹Rachel Carson NWR, 321 Port Rd. Wells, ME 04090

²9037 Harvey Ave., Pennsauken, NJ 08110

MODIFYING TIDAL FLOW RESTORATION TO BALANCE LONG-TERM SALT MARSH HABITAT IMPROVEMENT WITH SEVERE IMPACTS TO BREEDING SHARP-TAILED SPARROWS: A PROGRESS REPORT

12:00 Closing Remarks – Robert Buchsbaum, NEERS President

1:00 Estuarine Cruise – depart from Pier 6 – Food and drink available onboard