

# New England Estuarine Research Society

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## PROGRAM AND ABSTRACTS OF THE 1996 FALL MEETING

OCTOBER 24-26, 1996

HOTEL MANISSES  
BLOCK ISLAND, RHODE ISLAND

JOINTLY HOSTED

BY

THE GRADUATE SCHOOL OF OCEANOGRAPHY  
UNIVERSITY OF RHODE ISLAND

AND

US ENVIRONMENTAL PROTECTION AGENCY, NHEERL,  
ATLANTIC ECOLOGY DIVISION, NARRAGANSETT

AND

RHODE ISLAND SEA GRANT

AND

USDOC, NOAA, NATIONAL MARINE FISHERIES SERVICE,  
NORTHEAST FISHERIES SCIENCE CENTER

WEDNESDAY, OCTOBER 23 (optional)

1400 Ferry departs Pt. Judith for Block Island

1515 Arrive on Block Island. Then on your own to tour the Island, swim, practice your talk, etc. 1800 Dinner at  
Hotel Manisses, Main Dining Room

THURSDAY, OCTOBER 24

0630-0830 Breakfast, 1661 House, *or*

0600 Be at Block Island Ferry dock in Pt Judith, RI, for ferry that departs 0630, *or*

1030 Be at Block Island Ferry dock in Pt Judith, RI, for ferry that departs 1100 or as soon as  
filled. Look for NEERS table on this ferry.

1215 Lunch at Hotel Manisses, Gazebo Room (must pre-register for lunch or be staying at the hotel Thursday  
night)

1000 - 1300 Poster set-up, Hotel Manisses, Library

1230 - 1500 NEERS meeting registration, Hotel Manisses, Gazebo Room

1300 - 1700 Oil Spill Symposium, Hotel Manisses

Meeting Program on following pages

All presentations take place in the Hotel Manisses, lower level. Note that (R.) indicates Rankin Prize  
presentations; (K) indicates Ketchum Prize presentations; and (D) indicates Dean Prize poster presentations.

**SPECIAL SYMPOSIUM**

**The North Cape Oil Spill: Lessons Learned**

Walter Berry and Jim Latimer, US Environmental Protection Agency, Session Co-chairs

1300 Jim Latimer, US Environmental Protection Agency WELCOME and INTRODUCTION

1320 (K) Christopher M. Reddy and J. G. Quinn, University of Rhode Island

THE GEOCHEMISTRY OF THE NORTH CAPE OIL IN THE COASTAL WATERS OF  
SOUTHERN RHODE ISLAND

1340 J. Richard Jadamec, Paul deFur, Mike Kovacs and Carol P. Anderson, University of Connecticut

SPILL SITE ANALYSIS OF THE NORTH CAPE OIL SPILL BY FLUORESCENCE SPECTROSCOPY

1400 Michael Clancy and J. S. Cobb, University of Rhode Island

EFFECTS OF THE NORTH CAPE OIL SPILL ON THE JUVENILE LOBSTER POPULATION

1420-1450 BREAK and POSTER SESSION

1. Henry DuPont and Michelle Crowley, The Committee for the Great Salt Pond, Block Island  
COMMUNITY ACTION ENVIRONMENTAL GROUPS CAN HAVE A POSITIVE IMPACT  
ON WATER QUALITY

2. Carole L. Jaworski and E. Gibbs, Rhode Island Sea Grant COMMUNICATING OIL  
SPILL INFORMATION: THE RHODE ISLAND SEA GRANT NORTH CAPE WORLD  
WIDE WEB PAGE

3. (D) Leslie Patton, Kay Ho, James Latimer, Marguerite Pelletier, Richard McKinney, Richard Pruell  
and Saro Jayaraman, US Environmental Protection Agency  
ASPECTS OF CHEMISTRY AND TOXICITY OF THE NORTH CAPE OIL SPILL

4. (D) K. M. Rolih, Smith College PHYSIOLOGICAL AND MORPHOLOGICAL  
EFFECTS OF NO. 2 FUEL OIL ON THE MACROALGAE *Laminaria accharina*, *Ulva*  
*lactuca* and *Fucus vesiculosus*

5. Ron Rozsa, Connecticut Department of Environmental Protection THE  
EFFECTIVENESS OF SPIDER WEBS IN OIL SPILL PROTECTION

1450 P. W. C. Paton, University of Rhode Island

EFFECTS OF THE NORTH CAPE BARGE OIL SPILL ON AVIAN  
POPULATIONS WINTERING IN COASTAL RHODE ISLAND

1510 Romona Haebler and Doranne Borsay, US Environmental Protection Agency

CRY OF THE LOON: THE NORTH CAPE OIL SPILL

1530 PANEL PRESENTATIONS

1. Stephen M. Lehmann, National Oceanic and Atmospheric Administration  
THE NOAA SCIENTIFIC SUPPORT TEAM AND "RESPONSE SCIENCE"

2. Matthew Harrington, Roger Williams University School of Law  
CLARIFYING THE SHIPOWNER'S LIABILITY FOR OIL SPILLS

3. John Torgan, Save the Bay  
THE ROLE OF PUBLIC PARTICIPATION IN OIL SPILL RESPONSE AND  
CONTINGENCY PLANNING

4. Peter Lord, Providence Journal Co.  
HOW SCIENTISTS DEAL WITH NEWS REPORTERS WHEN DISASTER STRIKES

1630 AUDIENCE DISCUSSION OF CURRENT ON-GOING RESEARCH

1650 Walter Berry, US Environmental Protection Agency CONCLUSION

1700 ADJOURN

For those of you who MUST leave the Island on Thursday, there is a ferry at 1800 to Pt. Judith. For the rest of us, discussion of the symposium can continue at the social which starts immediately after the session.  
1715 NEERS WELCOMING SOCIAL and meeting registration, Gazebo Room, Hotel Manisses also,  
practice for the NEERS kazoo band (please bring your own)  
1815 Ferry for latecomers arrives from Pt. Judith (departed Pt. Judith at 1700)  
1900 Dinner at the Hotel Manisses, Main Dining Room  
2100 Tour of Block Island nightlife

#### FRIDAY, OCTOBER 25

(note: if you want to attend this morning's session & you come by ferry, you MUST arrive on Thursday.)

0630-0820 Breakfast, 1661 House

0730-0830 Poster set-up, Gazebo Room, Hotel Manisses

0800-1130 Meeting Registration, Hotel Manisses, Library

#### FRIDAY MORNING CONTRIBUTED PAPERS SESSION

Session Chair: H. Perry Jeffries, University of Rhode Island

Hotel Manisses

0830 David Franz, Brooklyn College; NEERS President WELCOME

0840 Frederick T. Short, M. E. Gizzle, D. M. Burdick, R Davis and A. C. Mathieson,  
University of New Hampshire

IMPACTS OF A SMALL OIL SPILL IN A SMALL ESTUARY IN NEW HAMPSHIRE

0900 (R.) Jonathan Theel and Scott W. Peabody, US Coast, Gaard Academy

ENVIRONMENTAL EFFECTS OF DISCARDED BATTERIES ON ESTUARINE LIFE

0920 Richard E. Crawford, Waquoit Bay National Estuarine Research Reserve

A STUDY OF THE BIOLOGICAL AND PHYSICAL EFFECTS OF BOATING IN A SHALLOW  
COASTAL EMBAYMENT

0940 (K) Pamela A. Morgan and F. T. Short, University of New Hampshire

ASSESSING PRIMARY PRODUCTION AND SEDIMENT RETENTION IN CREATED SALT MARSHES  
OF THE GREAT BAY ESTUARY, NEW HAMPSHIRE

1000-1020 BREAK

1020 Marshall Pregnell, Vassar College, Maribel Pregnell, Bard College, and Steven Rumrill, South  
Slough National Estuarine Research Reserve

MULTI-YEAR CHANGES OF EELGRASS AND MACROALGAL ABUNDANCE FOLLOWING  
HARVEST OF COMMERCIALY GROWN OYSTERS

1040 (K).Ryan Davis, University of New Hampshire

QUANTIFYING THE EFFECT OF BIOTURBATION BY GREEN CRABS (*Carcinus maenus*) ON  
EELGRASS (*Zostera marina L.*) TRANSPLANTS USING MESOCOSM EXPERIMENTS

1100 Pam Arnofsky, Woods Hole Oceanographic Institution and Ernest Ruber, Northeastern University

USE OF PRINCIPAL COMPONENTS ANALYSIS TO EVALUATE MORPHOLOGICAL VARIATION IN  
THE GENUS *Apocyclops*

1120 Slava S. Epstein and Ernest Ruber, Northeastern University

DISTRIBUTION OF NORTH SEA MEIOBENTHOS ALONG AN EXPERIMENTALLY ESTABLISHED  
OXYGEN GRADIENT

1140 Ken R. Hinga, University of Rhode Island

pH VARIABILITY IN COASTAL WATERS and pH EFFECTS ON MARINE PHYTOPLANKTON

1200-1400 LUNCH with an ocean view. Possibly mini-tours of Island sights. Also, get a sneak preview of the posters

**FRIDAY AFTERNOON SESSION OF CONTRIBUTED PAPERS**

Session Chair: Veronica Berounsky, University of Rhode Island  
Hotel Manisses

1400 Lorraine Joubert, D. Q. Kellog and A. J. Gold, University of Rhode Island

USING THE GIS-BASED "MANAGE" METHOD TO REDUCE NUTRIENT LOADING  
TO BLOCK ISLAND'S COASTAL WATERS AND AQUIFERS

1420 David B. Dow and G. W. Loomis, University of Rhode Island

URI COOPERATIVE EXTENSION ON-SITE WASTEWATER TRAINING CENTER: TRAINING AND  
TECHNOLOGIES TO REDUCE NITROGEN LOADING TO COASTAL WATERS

1440 Norbert A. Jaworski, Wakefield, RI

ESTIMATES OF NITROGEN FLUXES FROM VARIOUS EXTERNAL SOURCES TO  
BUZZARDS, NARRAGANSETT & PECONIC BAYS DURING THE PAST CENTURY

1500-1530 BREAK and POSTER SESSION - Hotel Manisses, Gazebo Room

1. (D) L. D. Altvater, A. C. Orsted, M. J. Santo, D. R. Wattern, S. J. Weissback,  
R S. Warren and W. A. Niering, Connecticut College

PATTERNS OF VEGETATION AND MACROINVERTEBRATE POPULATION RECOVERY ON EIGHT  
CONNECTICUT TIDAL MARSHES FOLLOWING RESTORATION OF TIDAL FLOODING:  
PRELIMINARY FINDINGS

2. (D) J. C. Blintz, S. W. Nixon, S. L. Granger, B. A. Buckley and S. Sherwood, University of Rhode Island  
TOP-DOWN CONTROLS ON THE ENRICHMENT RESPONSE OF A COASTAL MARINE ECOSYSTEM: A  
MESOCOSM EXPERIMENT

3. (D) A. H Brawley, R. S. Warren and R A. Askins, Connecticut College  
BIRD USE OF RESTORATION AND REFERENCE MARSHES WITHIN THE BARN  
ISLAND TIDAL WETLAND COMPLEX, STONINGTON, CONNECTICUT

4. (D) M. J. Brush, S. W. Nixon and S. L. Granger, University of Rhode Island  
PRODUCTION AND RESPIRATION RATES OF TWO MARINE MACROALGAE

5. R. M. Chambers and J. C. Ambrose, Fairfield University  
POSSIBLE MECHANISM FOR CONTROL OF *Phragmites* GROWTH IN TIDAL WETLANDS

6. Mark Chandler, New England Aquarium, P. Colarusso, EPA and R. Buchsbaum,  
Massachusetts Audubon Society  
DIFFERENCES IN FISH COMMUNITIES AMONG NEARSHORE HABITATS IN  
BOSTON HARBOR AND NORTHERN MASSACHUSETTS BAY

7. (D) William DeLeo, C. Kincaid, and R. Pockalny, University of Rhode Island  
PATTERNS IN NARRAGANSETT BAY CIRCULATION: CONSTRAINTS FROM A  
SHALLOW WATER ACOUSTIC DOPPLER CURRENT PROFILER

8. Michael Mazurkiewicz, University of Southern Maine THE  
DISTRIBUTION OF SCALES AT DIFFERENT SCALES

9. M. Mroczka and T. Casanova, Cedar Island Marine Research Laboratory, It Goldberg, N. J. Pereira, P.  
Clark, S. Stiles, J. Choromanski and D. Schweitzer, National Marine Fisheries Service, P. E. Pellegrino,  
Southern Connecticut State University  
CULTURE OF THE BAY SCALLOP, (*Argopecten irradians*), WITHIN A SMALL-BOAT MARINA ON  
LONG ISLAND SOUND (CONNECTICUT)

10. M. Mroczka, T. Casanova, Cedar Island Marine Research Laboratory, P. E. Pellegrino, Southern Connecticut State University, T. A. Randall, and J. K. Carlson, University of Mississippi  
FEEDING HABITS OF JUVENILE WINTER FLOUNDER (*Pleuronectes americanus*) WITHIN A COASTAL MARINA AND ADJACENT INTERTIDAL HABITATS

11. M. Mroczka and T. Casanova, Cedar Island Marine Research Laboratory, T. A. Randall and J. K. Carlson, University of Mississippi, P. E. Pellegrino, Southern Connecticut State University  
COASTAL MARINA BASINS AS POTENTIAL FISHERY HABITAT WITH SPECIAL EMPHASIS ON NURSERY FUNCTION

12. (D) Cate O'Keefe and Lynn Miller, Hampshire College, J. Stuenkel-Parker, Boston Bass Brigade, Michael Sutherland, University of Massachusetts-Amherst  
STRIPED BASS IN BOSTON HARBOR: WHERE DO THEY COME FROM?

13. Peter E. Pellegrino, Southern Connecticut State University, M. Mroczka and T. Casanova, Cedar Island Marine Research Laboratory  
THE LIVING SEASHORE: AN INTERACTIVE MULTIMEDIA GUIDE TO THE INVERTEBRATES OF HAMMONASSET STATE PARK (MADISON, CT)

14. (D) Ben Richards, Hampshire College  
EFFECT OF WATER CURRENT AND KELP DENSITY ON FISH RECRUITMENT IN KELP BEDS

15. (D) Jessica A. Spelke and F. C. Golet, University of Rhode Island  
DISTRIBUTION AND ABUNDANCE OF *Melampus bidentatus* AT THE GALILEE SALT MARSH PRIOR TO RESTORATION

BACK TO YOUR SEAT FOR MORE ORAL PRESENTATIONS!

1530 Barbara Nowicki, E. Requitina, D. Van Keuren, University of Rhode Island, and J. Portnoy, National Biological Service  
CAN SEDIMENT DENITRIFICATION EFFECTIVELY INTERCEPT GROUNDWATER NITRATE FLOW THROUGH SANDY COASTAL SEDIMENTS?

1550 (R.) Nat Weston, Hampshire College, and A. Giblin, G. Banta, C. Hopkinson and J. Tucker, Marine Biological Laboratory  
ESTIMATING DENITRIFICATION IN SEDIMENTS OF THE PARKER RIVER ESTUARY, MA

1610 Aimee A. Keller, P. Hargraves, H. Jeon, G. Klein-McPhee, E. Klos, C. Oviatt and J. Zhang, University of Rhode Island  
THE EFFECTS OF ULTRAVIOLET-B ENHANCEMENT ON MARINE TROPHIC LEVELS IN STRATIFIED COASTAL SYSTEMS

1630 Ted Loder, M. Evans, R. Boudrow, C. Coniaris, H. Benway, C. Martorano and A. Schoudel, University of New Hampshire  
SPRING PULSE AND ANNUAL NUTRIENT INPUT BY THE KENNEBEC RIVER TO THE WESTERN GULF OF MAINE COASTAL ZONE

1650 Charles Roman, U.S. Geological Survey Biological Resources Division, University of Rhode Island - MODERATOR  
ESTUARIES OF THE NORTH EAST - SOME SHORT PRESENTATIONS & GROUP DISCUSSION IN PREPARATION FOR PRESENTATION AT ERF '97

BACKGROUND: At the 1997 Estuarine Research Federation (ERF) meeting, each affiliate society will give an oral presentation on the estuaries of its region. For each region, the presentation will take into account terrestrial and wetland histories, changes in resources species, climate and weather trends, human population growth and effluents, and interactions with upland watersheds. In order to prepare for this, Charles Roman will lead a discussion on these topics and discuss what is interesting or unique scientifically about particular estuaries and about estuaries of the northeast, in general. This discussion will be continued at the Social and Awards Banquet.

1720 NEERS BUSINESS MEETING

Agenda: Secretary's report; Treasurer's report; report on the ERF Governing Board meeting; future NEERS meetings, including Wells NERR for spring '97; update on ERF '97 to be held in Providence, RI; a name change for NEERS?; elections for NEERS officers, and last but not least the orderly transfer of presidential power (and files) from Dave Franz to Fred Short and the relinquishing of the money box by Treasurer Robert Buchsbaum. (Where *is* that bank account? And where's Robert? And Dave? And what's all this talk about Jamaica?)

1800 SOCIAL - Hotel Manisses, Gazebo Room

1900-2130 AWARDS BANQUET - Hotel Manisses, Main Dining Room

Presentation of Student Prizes: Ketchum, Rankin, and Dean; various hoorays and honors  
Special Dessert Travelogue: Doug Tolderlund, US Coast Guard Academy:

"Science in Antarctica: My trip to the South Pole"

**SATURDAY, OCTOBER 26**  
**WORKSHOP & CONTRIBUTED PAPERS SESSION**

Session Chair: Charles Roman, U.S. Geological Survey - Biological Resources Division, University of Rhode Island  
Hotel Manisses

0830 Charlene D'Avanzo, Hampshire College

WORKSHOP: STUDENT-ACTIVE TEACHING APPROACHES IN THE MARINE SCIENCE

\*note: this will be an audience-participation workshop

0930 Richard A. Orson, Orson Environmental Consulting, R., S. Warren and W. A. Niering, Connecticut College, and  
I. M. Spooky, Hal O'Ween Consulting

GLITTER: IT'S NOT JUST FOR COSTUMES ANYMORE

0950 David M. Burdick, P. A. Morgan and F. T. Short, University of New Hampshire

EVALUATING A SALT MARSH CREATION IN NORTHERN NEW ENGLAND

1010-1040 BREAK

1040 Z. Yang and J. N. Gearing, University of Massachusetts Dartmouth

SOURCES OF SEDIMENTARY HYDROCARBONS IN WESTERN BUZZARDS BAY

1100 E. Holt and It Buchsbaum, Massachusetts Audubon Society

BIRD USAGE OF *Phragmites australis* IN THE PLUM ISLAND SOUND REGION, MA

1120 David Franz, Brooklyn College CUNY and Dennis Franz, NYPD

RIBBED MUSSEL DENSITY, RECRUITMENT AND PRODUCTION IN JAMAICA BAY *or* DO YOU  
NEED A SEARCH WARRANT TO FIND MUSSELS IN JAMAICA BAY?

1140 Frederick Short, University of New Hampshire, NEERS President

EVALUATING AN EELGRASS CREATURE IN NORTHERN NEW ENGLAND *or* CLOSING REMARKS

1150 Lunch for those who need/want it, Hotel Manisses (or box lunch for the ferry )

1230 First ferry to Pt. Judith (but you miss the field trip!)

1330 - 1600 Driving tour overview of Block Island and field trip led by Christopher Littlefield of the Nature Conservancy, Block Island Chapter. Itinerary and departure time will be announced at the meeting. Please sign up Thursday or Friday. Block Island has been designated as one of the "12 Last Great Places" in the Western Hemisphere by the Nature Conservancy. It contains a variety of habitats, such as morainal grasslands, coastal bluffs, sand & cobble beaches, salt & brackish ponds, sand dunes, and various freshwater wetland ecosystems. It is home to over 40 rare or endangered species and natural communities. It can be a great birding site during the fall. Twenty-one percent of the island's land is preserved as open space. We will start by driving across the island, to get an overview. Bring your walking shoes, binoculars, and cameras. The exact itinerary and timing will depend on the weather, but it will include a variety of Block Island habitats

1700 Last Friday ferry to Pt. Judith !