

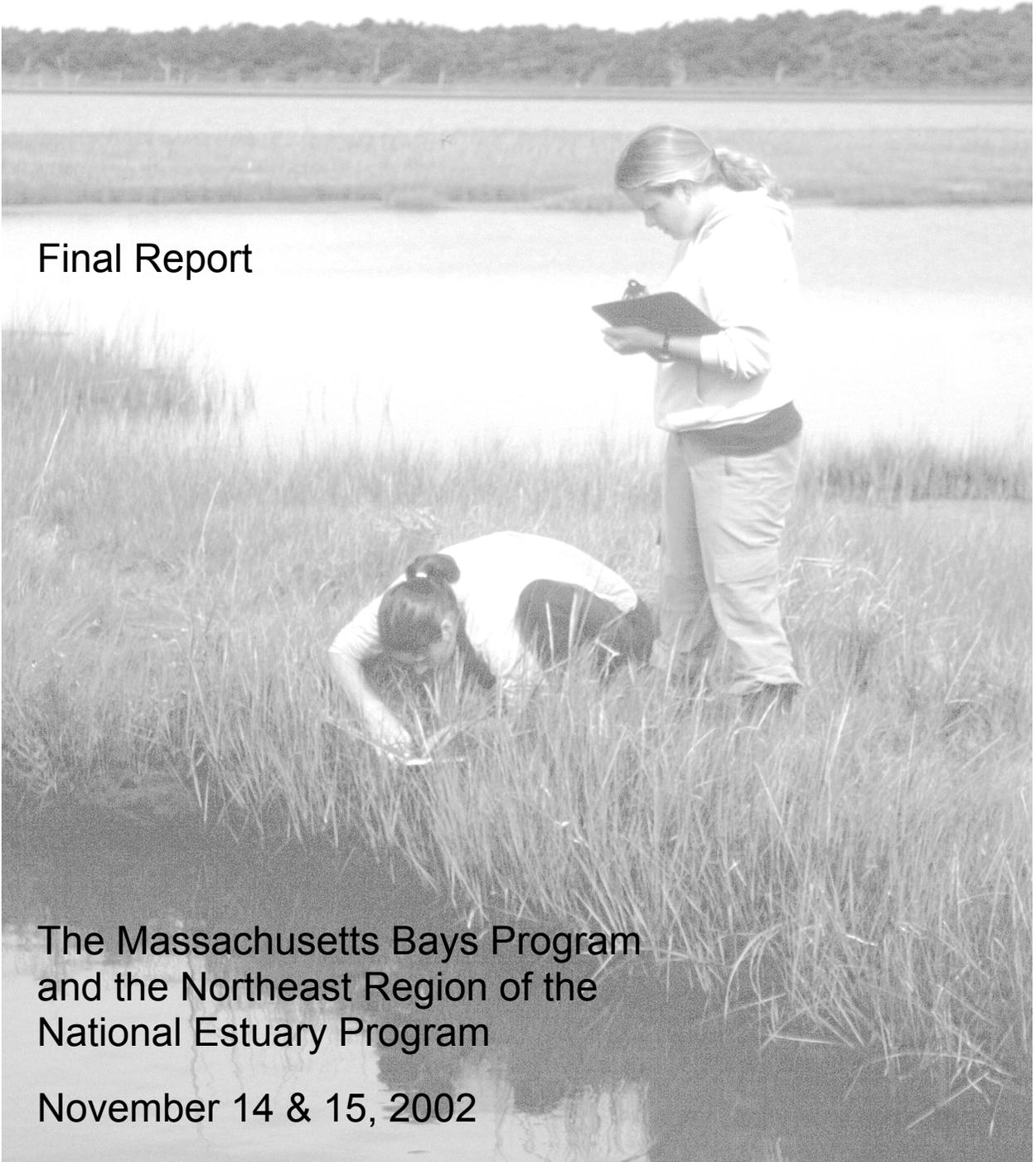
EYES ON THE ESTUARIES:

A Conference on Preventing and Detecting Marine Invasive Species in the Northeastern United States

Final Report

The Massachusetts Bays Program
and the Northeast Region of the
National Estuary Program

November 14 & 15, 2002



Final Report:

EYES ON THE ESTUARIES Preventing and Detecting Marine Invasive Species

A Massachusetts Bays Program Regional Conference

November 14 & 15, 2002

Jan Smith, Executive Director
Massachusetts Bays Program
251 Causeway Street, Suite 900
Boston, MA 02114



Acknowledgements

The Massachusetts Bays Program (MBP) would like to thank the following organizations, agencies, and people:

The Environmental Protection Agency and the Association of National Estuary Programs for their generous support; without which this conference could not have happened.

The Massachusetts Office of Coastal Zone Management, the New England Aquarium, and Salem Sound Coastwatch for their generous staff support.

The northeast National Estuary Programs including the Buzzards Bay Project, the Casco Bay Estuary Project, the Long Island Sound Study, the Narragansett Bay Estuary Program, the New Hampshire Estuaries Project, the NY/NJ Harbor Estuary Program, and the Peconic Estuary Program for their assistance with conference planning and logistics.

All of the speakers who presented their important work at the conference, with a special *thank you* to Dr. Jim Carlton and Dr. Judy Pederson, two exceptionally talented and inspirational speakers on the subject of marine invasive species.

Special in-house thanks go to Shannon Weigle for coordinating and planning much of the logistics, and to MIT Sea Grant and Salem Sound Coastwatch for handling the conference finances and registration.

Final Report Compilation: Shannon Weigle, MBP and the Long Island Sound Study

Photo Credits: Ethan Nedeau, Peter Phippen, Steve Tucker, Ken Wagner, and Karen Young

“We must make no mistake: we are seeing one of the great historical convulsions in the world's fauna and flora. We might say, with Professor Challenger, standing on Conan Doyle's 'Lost World', with his black beard jutting out: 'We have been privileged to be present at one of the typical decisive battles of history--the battles which have determined the fate of the world.' But how will it be decisive? Will it be a Lost World? These are the questions that ecologists ought to try to answer.”
- Charles Elton (1958)

Table of Contents

Page

Introduction	1
Program Agenda	3
Section 1: Speaker Presentations	5
Baker, Jason. Abstract and Presentation	7
Buchsbaum, Robert. Abstract and Presentation	18
Carlton, Jim. Abstract	26
Chapman, Annelise. Abstract	27
Harding, Juliana. Abstract	28
Pederson, Judith. Abstract	29
Rudnick, Deborah. Abstract and Presentation	31
Sinnott, Tim. Abstract and Presentation	37
Smith, Brian. Abstract and Presentation	43
Smith, L. David. Abstract	48
Stinner, Ron. Abstract and Presentation	49
Tyrell, Megan. Abstract and Presentation	54
Weigle, Shannon. Abstract	61
Whitlatch, Robert. Abstract	62
Section II: Panel Discussion	63
Panel Discussion Transcription	65
Section III: Break Out Groups	73
Break Out Group Summaries	75
Section IV: Contact Information	81



Regional environmental managers, educators, scientists, and others learn about the current status of marine invasive species in the northeast at the Eyes on the Estuaries Conference.

Introduction

Next to habitat destruction, invasive exotic species are the leading cause of decreased biological diversity in the United States and worldwide. Though the northeast has yet to witness an invasion as ecologically destructive as that of the mitten crab *Eriocheir sinensis* or the green alga *Caulerpa taxifolia*, numerous invasive species are threatening our coastal watersheds. Marine invaders can enter through a variety of pathways that are difficult to monitor and control. Since marine ecosystems are essentially borderless, invasive species can easily spread from estuary to estuary and state to state. Regional coordination and cooperation are necessary in order to effectively prevent and control future invasions of exotic marine species.

More than 150 government officials, scientists, nonprofit organization representatives, and citizen activists attended the 2003 Eyes on the Estuaries Conference. Dr. Jim Carlton began day 1 with the keynote address *Exotic Marine Species: Why They Matter, and the Value of Detection Monitoring, and Surveillance of Vectors and Invaders*. Dr. Carlton's presentation set the stage for further talks and discussions on the threat of invasive species to local marine biodiversity and the steps that can be taken on a regional level to prevent their introduction and spread. The morning presentations focused on species that have already invaded the northeast and the efforts that are underway to study their spread and impact. Afternoon presentations showcased a variety of local habitat monitoring efforts, ranging from volunteer monitoring programs to scientific studies, and the challenges that arise when incorporating invasive species monitoring into these efforts.

Day 2 began with a presentation by Dr. Judy Pederson titled *Making Choices: Getting the Biggest Bang for the Buck*. Dr. Pederson addressed the variety of pathways that lead to marine invasions and the need to prioritize action in the region in order to most effectively prevent future invasions. The speakers that followed focused on invaders that may soon reach the northeast and the pathways through which they may be introduced. During the afternoon break-out sessions, participants worked together to develop strategies for regional habitat monitoring and pathway control.

In response to the conference, many groups in the northeast have begun to take action and develop strategies for preventing further invasions. Efforts are currently underway to create a northeast monitoring network for marine invasive species. Others are working with local industries at risk of introducing invasive species to develop best management practices aimed at curbing these risks. In addition to these innovative efforts, we still need more "eyes on our estuaries." To learn more and get involved, visit www.massbays.org!

Eyes on the Estuaries:
The Northeast Marine Invasive Species Conference
Thursday November 14, 2002

8:00 AM	Registration and Refreshments
8:30 8:50	Welcome: Jan Smith, Executive Director, Massachusetts Bays Program Keynote Address: Dr. Jim Carlton, Williams College - Mystic Seaport <i>"Exotic Marine Species: Why They Matter, and the Value of Detection Monitoring, and Surveillance of Vectors and Invaders"</i> 15 minutes for Q&A
9:45	Break
10:15 10:45 11:15	THEY'RE HERE!!! INVASIVE SPECIES IN THE REGION Moderator: Richard Ribb, Narragansett Bay Estuary Program Megan Tyrell, Massachusetts Office of Coastal Zone Management <i>"Impacts of two introduced crabs on the northern New England rocky intertidal community"</i> Annelise Chapman, Dalhousie University <i>"The green algal invader Codium fragile ssp. tomentosoides in North America: 45 years and still going strong"</i> Juliana Harding, Virginia Institute of Marine Science <i>"Current status and potential establishment range for the predatory marine gastropod Rapana venosa on the U.S. East Coast"</i>
11:45	Lunch
1:10 1:40 2:10 2:40	APPROACHES TO INVASIVES MONITORING Moderator: Karen Young, Casco Bay Estuary Program Judy Pederson, MIT Sea Grant College Program <i>"Northeast Rapid Assessment Survey"</i> Brian Smith, Great Bay National Estuarine Research Reserve <i>"Biological monitoring as part of the National Estuarine Research Reserve System Wide Monitoring Program"</i> Robert Buchsbaum, Massachusetts Audubon Society <i>"Monitoring marine invasive species and other organisms in the rocky intertidal zone using volunteers"</i>
3:10	Break
3:30 4:00	Moderator: Joe Costa, Buzzards Bay Estuary Program Robert Whitlatch, University of Connecticut <i>"Long-term monitoring coastal invasive invertebrate recruitment: linking climate change and biological invasions"</i> Jason Baker, Massachusetts Coastal Zone Management <i>"The Marine Invader Database: A strategy for tracking the distribution of invasive species in the waters of the Northwest Atlantic"</i>
4:30	Panel Discussion <i>Integrating Invasive Species Monitoring into Ongoing Monitoring Programs</i> Panelists: Robert Buchsbaum, Massachusetts Audubon Society; Annelise Chapman, Dalhousie University; Anne Monnelly, Massachusetts Lakes and Ponds Initiative; Brian Smith, Great Bay NERR Moderator: Jan Smith, Massachusetts Bays Program
5:30 – 7:30 PM	Evening Reception, West Wing Gallery, New England Aquarium

Eyes on the Estuaries:
The Northeast Marine Invasive Species Conference
Friday November 15, 2002

8:00 AM	Registration and Refreshments
8:30	Keynote Address: Dr. Judith Pederson, MIT Sea Grant College Program <i>"Making Choices: Getting the Biggest Bang for the Buck"</i> 10 minutes for Q&A
9:15	THEY'RE COMING!!! INVASIVE SPECIES ON THE WAY Moderator: Peter Sattler, Interstate Environmental Commission Debbie Rudnick, University of California <i>"The Chinese Mitten Crab: Coming soon to an estuary near you?"</i>
9:45	David Smith, Smith College <i>"Identifying potential invaders among imported marine species"</i>
10:15	Break
10:45	APPROACHES TO PATHWAY MONITORING Moderator: Jennifer Hunter, New Hampshire Estuaries Program Shannon Weigle, Massachusetts Bays Program <i>"The live marine species trade and potential risks for exotic species introductions"</i>
11:15	Ron Stinner, North Carolina State University <i>"Developing an internet surveillance application and team"</i>
11:45	Tim Sinnott, New York State Department of Environmental Conservation <i>"The Northeast Regional Panel of the National Aquatic Nuisance Species Task Force"</i>
12:15	Lunch
1:15	CONSTRUCTIVE COORDINATION Break-Out Groups 1) <i>Coordinating Marine Monitoring Efforts and Data Management</i> Moderator: Jason Baker, MA Coastal Zone Management 2) <i>Pathway Monitoring and Prevention Strategies</i> Moderator: Michelle Tremblay, Northeast Aquatic Nuisance Species Panel 3) <i>2003 Northeast Rapid Assessment Survey of Intertidal Habitats</i> Moderator: Jan Smith, Massachusetts Bays Program
2:15	Break
2:30	<i>Break-Out Group Summaries:</i> Break-Out Group Moderators
3:00	<i>Closing Thoughts:</i> Jan Smith, Massachusetts Bays Program
3:15	Adjourn