

CONTENTS

Acknowledgments / ix

Introduction: Are Salt Marshes
at Risk? / xi

Part I • Invasions in North American Salt Marshes

- 1 • SPARTINA INTRODUCTIONS AND
CONSEQUENCES IN SALT MARSHES:
ARRIVE, SURVIVE, THRIVE, AND SOMETIMES
HYBRIDIZE / 3
D. R. Strong and D. R. Ayres
- 2 • CHANGES IN COMMUNITY
STRUCTURE AND ECOSYSTEM
FUNCTION FOLLOWING SPARTINA
ALTERNIFLORA INVASION OF
PACIFIC ESTUARIES / 23
*Edwin D. Grosholz, Lisa A. Levin,
Anna C. Tyler, and Carlos Neira*
- 3 • INVASIVE ANIMALS IN MARSHES: BIOLOGICAL
AGENTS OF CHANGE / 41
James E. Byers
- 4 • PHRAGMITES AUSTRALIS IN
EASTERN NORTH AMERICA:
A HISTORICAL AND ECOLOGICAL
PERSPECTIVE / 57
*Laura A. Meyerson, Kristin Saltonstall,
and Randolph M. Chambers*

Part II • Human Inputs and Consumer Effects

- 5 • OPPORTUNISTIC HERBIVORES, MIGRATORY
CONNECTIVITY, AND CATASTROPHIC SHIFTS
IN ARCTIC COASTAL SYSTEMS / 85
Hugh A. L. Henry and Robert L. Jefferies
- 6 • TOP-DOWN CONTROL AND HUMAN
INTENSIFICATION OF CONSUMER PRESSURE
IN SOUTHERN U.S. SALT MARSHES / 103
*Brian R. Silliman, Mark D. Bertness,
and Mads S. Thomsen*
- 7 • ALLIGATOR HUNTERS, PELT TRADERS, AND
RUNAWAY CONSUMPTION OF GULF COAST
MARSHES: A TROPHIC CASCADE PERSPECTIVE
ON COASTAL WETLAND LOSSES / 115
*Paul A. Keddy, Laura Gough, J. Andy Nyman,
Tiffany McFalls, Jacoby Carter,
and Jack Siegrist*

Part III • Land Use and Climate Change

- 8 • SHORELINE DEVELOPMENT
AND THE FUTURE OF NEW ENGLAND
SALT MARSH LANDSCAPES / 137
*Mark D. Bertness, Brian R. Silliman,
and Christine Holdredge*

- 9 • TIDAL RESTRICTIONS AND MOSQUITO DITCHING IN NEW ENGLAND MARSHES: CASE STUDIES OF THE BIOTIC EVIDENCE, PHYSICAL EXTENT, AND POTENTIAL FOR RESTORATION OF ALTERED TIDAL HYDROLOGY / 149
Caitlin Mullan Crain, Keryn Bromberg Gedan, and Michele Dionne

- 10 • IMPACTS OF GLOBAL CLIMATE CHANGE AND SEA-LEVEL RISE ON TIDAL WETLANDS / 171
J. Court Stevenson and Michael S. Kearney

- 11 • POTENTIAL IMPACTS OF ELEVATED CO₂ ON PLANT INTERACTIONS, SUSTAINED GROWTH, AND CARBON CYCLING IN SALT MARSH ECOSYSTEMS / 207
Jordan R. Mayor and Caitlin E. Hicks

Part IV • Die-off, Loss, and Conservation

- 12 • FROM CLIMATE CHANGE TO SNAILS: POTENTIAL CAUSES OF SALT MARSH DIEBACK ALONG THE U.S. EASTERN SEABOARD AND GULF COASTS / 231
David T. Osgood and Brian R. Silliman
- 13 • PATTERNS OF SALT MARSH LOSS WITHIN COASTAL REGIONS OF NORTH AMERICA: PRESETTLEMENT TO PRESENT / 253
Keryn Bromberg Gedan and Brian R. Silliman

- 14 • THE USE OF SCIENCE IN THE RESTORATION OF NORTHEASTERN U.S. SALT MARSHES / 267
John Teal and Susan Peterson
- 15 • CONSERVING THE DIVERSE MARSHES OF THE PACIFIC COAST / 285
J. C. Callaway and J. B. Zedler

Part V • International Perspectives

- 16 • HUMAN MODIFICATION OF EUROPEAN SALT MARSHES / 311
A. J. Davy, J. P. Bakker, and M. E. Figueroa
- 17 • HUMAN IMPACTS AND THREATS TO THE CONSERVATION OF SOUTH AMERICAN SALT MARSHES / 337
Cesar S. B. Costa, Oscar O. Iribarne, and Jose M. Farina
- 18 • ANTHROPOGENIC THREATS TO AUSTRALASIAN COASTAL SALT MARSHES / 361
Mads S. Thomsen, Paul Adam, and Brian R. Silliman

Conclusion: Salt Marshes under Global Siege / 391

Contributors / 399

Index / 401