Contents

Preface v

Ecosystem Modeling of the Oregon Shelf: Everything but the Kitchen Sink
Y. H. Spitz 1

Marine Ecosystem Simulation in the Indonesian Seas
Y. Sasai, A. R. Kartadikaria, Y. Miyazawa and K. Nadaoka 11

Response of Nutrients and Primary Production over the Shelf in the East China Sea to the Reduction of Oceanic Nutrient Supply
X. Guo and L. Zhao 19

Introduction of the Ecological Connectivity Hypoxia Model: ECOHYM—Model Concept and Its Validation on a Study Applied to Tokyo Bay
A. Sohma 31

Ecosystem and Nutrient Dynamics in the Seto Inland Sea, Japan
N. Yoshie, X. Guo, N. Fujii and T. Komorita 39

A Numerical Modeling Study of Japanese Sardine (*Sardinops melanostictus*) Migrations in the Western North Pacific
T. Okunishi, D. Ambe, S. Ito, T. Kameda, T. Setou, K. Komatsu, A. Kawabata, A. Takasuka and H. Kubota 51

Investigating Alternate Trophic Pathways through Gelatinous Zooplankton and Planktivorous Fishes in an Upwelling Ecosystem Using End-to-End Models
R. D. Brodeur, J. J. Ruzicka and J. H. Steele 57

Establishing a Conceptual Design for Jellyfish Blooms in the Seto Inland Sea
N. Fujii, A. Kaneda, S. Magome and H. Takeoka 65

Fate Prediction Model of Organic Chemicals in Coastal Bay Estuaries
K. Nakata, F. Horiguchi and T. Eriguchi 73

Ecosystem Analysis of the Seto Inland Sea: Bioaccumulation Model on a Basis of an Energy Balance Model
K. Omori, J. Shibata, H. Hamaoka, K. Matsumoto, T. Nanko, T. Kunihiro, T. W. Miller and H. Onishi 79

Trophic Dynamics of Pelagic Nekton in the Southern Benguela Current Ecosystem: Calibrating Trophic Models with Stable Isotope Analysis
C. D. van der Lingen and T. W. Miller 85

Tracing Dynamics of Organic Material Flow in Coastal Marine Ecosystems: Results from Manila Bay (Philippines) and Kyucho Intrusion (Japan)
T. W. Miller, G. Jaquinto, M. McGlone, A. Isobe, J. Shibata, H. Hamaoka and K. Omori 95

Variations of Seawater Temperature and Coastal Winds from 2003 to 2009 at the Bungo Channel, Japan
R. Shi, X. Guo and H. Takeoka 105

Spatial Variation of Submarine Groundwater Discharge (SGD) in the Central Part of Seto Inland Sea, Japan
M. Saito, X. Guo, S. Onodera, Y. Shimizu, Y. Kato, M. Tokumasu and H. Takeoka 117

Understanding What Drives Food Web Structure in Marine Pelagic Ecosystems
T. W. Miller, C. van der Lingen, R. Brodeur, K. Omori, H. Hamaoka and T. Isobe 125

Study of Sediment Cleanup Using Polychaetes
K. Ito, M. Nozaki, T. Kunihiro, C. Miura and T. Miura 133

Regional Characteristics of Lower Trophic Level Food Web Structure in the Seto Inland Sea
J. Shibata, H. Hamaoka, R. Isonaka, K. Matsumoto, T. Nanko, T. W. Miller, H. Onishi, T. Kunihiro and K. Omori 141

Sources of Sedimentary Organic Carbon in Mangrove Ecosystems from Ba Lat Estuary, Red River, Vietnam
N. T. Tue, H. Hamaoka, A. Sogabe, T. D. Quy, M. T. Nhuan and K. Omori 151

The Fish Composition of Phan Thiet Bay, Binh Thuan Province, Vietnam in Connection with Environmental Quality
N. T. Nam, N. X. Huan, V. T. Tang, T. W. Miller and K. Omori 159

The Roles of Marine Phytoplankton and Ocean Circulation in Determining the Global Fate of Polychlorinated Biphenyls
T. Kawai, I. C. Handoh and N. Suzuki 169

Bayesian Uncertainty Analysis of the Global Dynamics of Persistent Organic Pollutants: Towards Quantifying the Planetary Boundaries for Chemical Pollution
I. C. Handoh and T. Kawai 179

What Drives the Fate of Persistent Organic Pollutants in the North Sea? Insights from a Regional Model
T. Ilyina 189

Process Study on Numerical Simulation for Persistent Organic Pollutants in the East China Sea
J. Ono, D. Takahashi, X. Guo, S. Takahashi and H. Takeoka 197

Monitoring of Contamination by Non-PBDE Brominated Flame Retardants in Asian Coastal Waters Using Mussels as a Bioindicator
S. Ogawa, T. Isobe, K. Ramu, A. Subramanian, S. Takahashi and S. Tanabe 205

Inter-species Differences of Hydroxylated Polychlorinated Biphenyls (OH-PCBs) in the Blood of Small Cetaceans
M. Ochiai, K. Nomiyama, T. Isobe, T. Matsuishi, T. K. Yamada and S. Tanabe 213

Accumulation of Brominated Flame Retardants in Harbour and Dall's Porpoises from Hokkaido
A. Saito, T. Isobe, T. Matsuishi, T. K. Yamada, Y. Tajima and S. Tanabe 221

Contamination by Brominated Flame Retardants (BFRs) in Common Cormorants from Lake Biwa
R. Hashikawa, T. Isobe, S. Yano, T. Kunisue, K. Nakayama, A. Sudo, S. Takahashi and S. Tanabe 229

Formulation of Leeway-Drift Velocities for Sea-Surface Drifting-Objects Based on a Wind-Wave Flume Experiment
A. Isobe, H. Hinata, S. Kako and S. Yoshioka 239

Investigating the Accumulation of Plastic Debris in the North Pacific Gyre
J. J. Leichter 251

Deep-Sea Litter Study Using Deep-Sea Observation Tools
H. Miyake, H. Shibata and Y. Furushima 261

Toxic Metals in Polyethylene Plastic Litter
E. Nakashima, A. Isobe, S. Kako, S. Magome, N. Deki, T. Itai and S. Takahashi 271