# Contents

1 Outline of the Great East Japan Earthquake ........................................... 1  
Naoaki Shimada

Part I Aquatic Ecosystems

2 Normality of Succession of an Intertidal Community  
After the Great East Japan Earthquake .................................................. 11  
Ryusuke Kado and Nobuyoshi Nanba

3 Rocky Intertidal Zonation: Impacts and Recovery from  
the Great East Japan Earthquake .......................................................... 25  
Takashi Noda, Aiko Iwasaki, and Keiichi Fukaya

4 Quantitative Evaluation of the Impact of the Great East Japan  
Earthquake and Tsunami on the Rocky Intertidal Community .............. 35  
Aiko Iwasaki, Keiichi Fukaya, and Takashi Noda

5 Rocky Intertidal Barnacle Population Dynamics: Impacts  
and Recovery from the Great East Japan Earthquake ...................... 47  
Takashi Noda, Masayuki Sakaguchi, Aiko Iwasaki,  
and Keiichi Fukaya

6 Ecological Impacts of the Great East Japan Earthquake  
and Tsunami and the Following Succession on  
the Subtidal Macrobenthic Community in Onagawa  
Bay, Northeastern Japan, with Special Reference  
to the Dominant Taxon, Polychaetes ................................................... 59  
Hirokazu Abe, Genki Kobayashi, and Waka Sato-Okoshi
7 Ecological Consequences of the Tsunamis Caused by the Great East Japan Earthquake and Subsequent Disturbance Events in a Shallow Brackish Lagoon in Sendai Bay, Japan
Gen Kanaya, Takao Suzuki, Keiichi Kanou, Tomohiko Kondoh, Waka Sato-Okoishi, and Eisuke Kikuchi

8 Impacts of the Tsunami Disaster Caused by the Great East Japan Earthquake on the Benthic Communities and Their Recovery in Tidal Flats of Matsukawaura Lagoon, Soma, Japan
Takao Suzuki

9 Colonization of the Restored and Newly Created Tidal Flats by Benthic Animals in the Sanriku Region of Northern Japan
Masatoshi Matsumasa and Kyoko Kinoshita

10 Effects of the Great East Japan Earthquake on Intertidal Macrobenthos in Iwate Prefecture
Kyoko Kinoshita and Masatoshi Matsumasa

11 Ecological Responses of Macrobenthic Communities in Tidal Flats to Disturbances by the Great East Japan Earthquake
Tatsuki Nishita, Wataru Makino, Takao Suzuki, and Jotaro Urabe

12 The Effects of Liquefaction, Tsunami, and Land Subsidence on Intertidal Mollusks Following the Great East Japan Earthquake
Kenji Okoshi

13 Ecological Impacts and Recovery of Molluskan Populations After the Tsunami Struck Around Matsushima Bay and Sendai Bay, Miyagi Prefecture, Northeastern Japan
Shin’ichi Sato and Tomoki Chiba

14 Genetic Structures of Laguncula pulchella Metapopulations Along the Northeast Coast of Japan After the Tsunamis Caused by the Great East Japan Earthquake
Hajime Ohtsuki, Takao Suzuki, Kyoko Kinoshita, Gen Kanaya, Takuto Hirama, Shin’ichi Sato, Kiyotaka Shibata, Kenji Okoshi, and Jotaro Urabe

15 Impacts of Fuel Spills Caused by the Great East Japan Earthquake and Tsunami on the Subtidal Soft-Bottom Communities of a Semi-enclosed Bay Located on the Sanriku Coast
Gen Kanaya, Hideaki Maki, Fumihiro Chiba, Kazuki Miura, Shin-ichi Fukuchi, Hisao Sasaki, and Osamu Nishimura
Part II Terrestrial Ecosystems

16 Impact of the Great East Japan Earthquake and Tsunami on Coastal Vegetation and Landscapes in Northeast Japan: Findings Based on Remotely Sensed Data Analysis ..........................  253
Keitarou Hara, Yi Zhao, Mizuki Tomita, Noritoshi Kamagata, and Yunqing Li

17 Susceptibility of Sandy Beach Flora to the Great East Japan Earthquake and Tsunami in Northern Tohoku, Japan ..........  271
Daisuke Hayasaka, Katsumasa Yamada, and Taizo Uchida

18 The Species Composition of Buried Seeds of Seashore Vegetation Disturbed by the Great East Japan Earthquake and Tsunami in Northern Tohoku, Japan ...........................................  289
Motohiro Kawanishi, Daisuke Hayasaka, and Naoaki Shimada

19 Plant Diversity and Considerations for Conservation of It in Infrastructure Reconstruction Planning After the Great East Japan Earthquake and Tsunami of 2011 ..................  311
Takahide Kurosawa

20 Regeneration of Damaged Coastal Forests Caused by the Great East Japan Earthquake and Tsunami ..................................  337
Tomoki Sakamoto

21 Flora of Freshwater Wetlands in the Tsunami-Affected Zone of the Tohoku Region .........................................................  361
Mahoro Suzuki

22 Influences of Large, Infrequent Disturbance Caused by Tsunami on Coastal Forest Communities.................................  383
Mizuki Tomita, Yoshihiko Hirabuki, Hiroshi Kanno, and Keitarou Hara

23 Survey of Impact of the Great East Japan Earthquake on the Natural Environment in Tohoku Coastal Regions ....................  395
Osamu Ichihashi, Daisuke Hori, Yoshio Tsukamoto, Takashi Someya, Hiroaki Terasawa, Shinji Iki, Maki Isoda, Kotaro Goto, Emiko Ariyasu, Takashi Inoue, and Shintaro Abe
Ecological Impacts of Tsunamis on Coastal Ecosystems
Lessons from the Great East Japan Earthquake
Urabe, J.; Nakashizuka, T. (Eds.)
2016, XI, 410 p. 143 illus., 60 illus. in color., Hardcover
ISBN: 978-4-431-56446-1