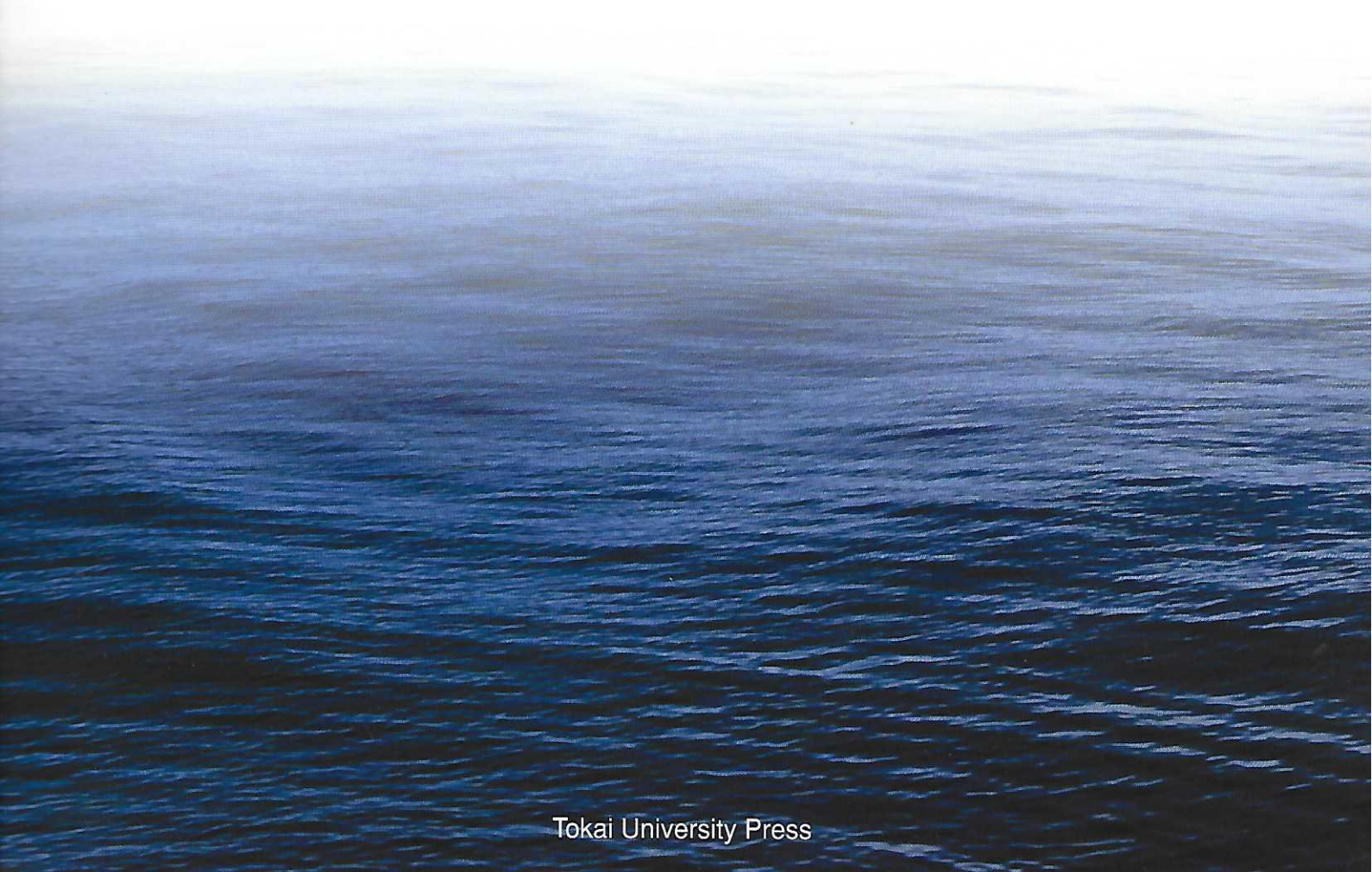


Marine ecosystems after Great East Japan Earthquake in 2011

Our knowledge acquired by TEAMS

Edited by Kazuhiro Kogure, Masato Hirose, Hiroshi Kitazato and Akihiro Kijima



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1. Preface

Akihiro KIJIMA Tohoku University

The Great East Japan Earthquake and tsunami 5 years ago, on March 11, 2011, caused immense damage to marine ecosystems, both nearshore and offshore, on the Pacific coast of northeastern Japan (the Tohoku area). Debris was deposited far inland and into the subtidal zone; crude oil and other toxic chemical compounds spewed into the ocean; and seaweed forests and tidelands were obliterated. Marine products (fisheries and aquaculture) are the mainstay of industry in Tohoku but most fishing vessels, fishing gear, aquaculture equipment and nets, and onshore facilities for processing marine products were destroyed. Although five years have passed since the disastrous earthquake and tsunami, the rebuilding of towns and recovering of fisheries is proceeding slowly because of the extensive devastation. Therefore, helping the restoration of marine ecosystems and revitalizing the fishing and marine-product industries in these coastal areas have become a pressing issue. In order to accomplish these urgent tasks, as well as to learn how to cope with such disasters in the future, scientific investigation is essential to understand the effects of such strong disturbances on marine ecosystems and to monitor the process of their recovery.

The Tohoku Ecosystem-Associated Marine Science (TEAMS) project is a decade-long project to monitor and aid the restoration of marine products in the area by conducting scientific research to clarify the means by which marine bio-resources can be efficiently but sustainably exploited. It is funded by the Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT). Tohoku University is the central representative member, in collaboration with the Atmosphere and Ocean Research Institute (AORI), the University of

Tokyo and the Japan Agency for Marine-Earth Science and Technology (JAMSTEC). Over 200 marine researchers from all over the country are involved. The marine environments and ecosystems are being continuously investigated from coastline to offshore and from surface to bottom throughout the water column along the Pacific coast of the Tohoku area. The results obtained are open to fishery-related organizations, local governments, and ordinary citizens through regular series of public lectures and symposia.

The TEAMS project includes the construction of a database contributing to the coordination, management and research of future large-scale disasters within the global community. The project will also contribute to future integration and synthesis of research in marine and fishery sciences. Although TEAMS intends to advocate "science that contributes to society (Science for Society)", and to push forward with maximum effort, this group of scientists alone cannot bring about recovery and revival following such an historical catastrophic disaster. Your kind understanding, cooperation, guidance, and encouragement are also important contributions to enable us to continue meaningful scientific monitoring activities, by which we hope to aid the rebirth of this part of Japan and contribute to the human knowledge base in how to cope with similar such disasters wherever in the world they occur in the future.

In the above point of view, TEAMS is holding an international symposium in Tokyo in March, 2016. The results obtained by TEAMS research activities during the last 5 years have been compiled in this book that would be released at the symposium. It is expected that this book will serve as disaster prevention guide to earthquake affected parts in the world, contribute to disaster reduction, and serve as a guide towards building infrastructure.

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9. About the Book

This book was published at the occasion of “International Symposium on Restoration after Great East Japan Earthquake -Our Knowledge on the Ecosystem and Fisheries-“ which was held from 2 to 4th, March, 2016 at Yayoi Auditorium in the University of Tokyo. The contributed papers are results of research under TEAMS Project and presented at the symposium. Masato Hirose and Sheryl O. Fernandes checked all the manuscripts for formatting.

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