



Preface

Coastal ecosystem in East Asia: Pollution and management



Coastal ecosystems of East Asia are seriously threatened by numerous environmental pollutants primarily due to anthropogenic activities in rapidly developing countries, such as Korea and China. The various toxic substances include metals, persistent organic pollutants, pharmaceuticals and personal care products, pesticides, biotoxins, and emerging substances, which share one serious feature in that the impact of such pollution on the coastal ecosystem is cumulative. Accordingly, coastal pollution threatens the sustainability of ecosystem health, and causes negative impacts on many important marine ecosystem services. Meantime, ecotoxicological responses of coastal organisms against toxic substances appear significantly at all levels, such as genes, cells, individuals, populations, and communities.

Over the past several decades, many studies have documented severe coastal pollution followed by adverse impacts on diverse community organisms. However, emerging environmental and ecosystem health

issues remain critical concerns. In particular, in the coastal areas of Korea and China, the contamination by classic and emerging chemicals has long been of significant concern. In order to protect and conserve the regional seas, joint efforts of neighboring countries in East Asia should be emphasized in a long-term collaborative manner. Under such international perspectives, the cooperation between Korea and China would be important to resolve many pollution issues around the Yellow Sea as both countries share the ecosystem geographically and socio-economically. The present special issue introduces the latest information on the current status of coastal pollution and ecotoxicological effects caused by toxic substances and methods of diagnosis of coastal ecosystem health, focusing on the Yellow Sea.

The Yellow Sea Ecosystem Symposium (YES) has been successfully developed since its first symposium in 2015, upon the scientific needs and challenges on solving the coastal pollution issues around the very



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region. The themes and targets of the YES generally encompass multiple scientific fields; from chemistry, toxicology, ecology, geology, geography, and to environmental policy. Considering the increasing potentials in geographical significance and scientific demands in the East Asia, the studies on coastal pollution and management in the Yellow Sea would be timely acknowledged. The goal of the YES is to provide a platform for the next generation to share scientific knowledge and improvement of our understanding on the coastal ecosystem of East Asia. The theme of the YES-2018 was “Coastal Pollution and Ecosystem-Based Management”.

The present volume of special issue includes pollution status in environmental multimedia, ecotoxicological effects, ecosystem threats and restoration, and environmental risk assessment and management in the Yellow Sea. A total of 38 research articles included in this volume broadly encompass the four major topics; 1) environmental chemistry (11), 2) environmental toxicology (8), 3) marine ecology (12), and 4) environmental and marine policy (7). We hope that the international audience will find our continuing solid efforts and challenges towards sustainability of the Yellow Sea and its ecosystem services. Built upon the success of YES-2018, we look forward to the series of our next gatherings in a long-term international perspective.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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