

Preface

Water quality criteria (WQC) form the scientific basis for the development of water quality standards (WQSs). Developed countries have established a relatively mature WQC system. For example, the United States, Canada, the Netherlands, Australia, and New Zealand have all published a number of documents and technical guidelines on WQC. Research into WQC has played an important role in the determination of WQSs and other aspects of environmental management, such as environmental monitoring, environmental impact assessment, and environmental risk assessment.

Fragmentary studies in WQC have been undertaken in China for about 30 years. There has been no systematic research in China leading to the establishment of a mature WQC system. However, despite this, there has been some progress on WQSs over the last 30 years. Various WQSs have been issued to protect surface water, seawater, fisheries waters, irrigation water, groundwater, and drinking water. These standards were derived from and/or based on relevant standards or criteria from developed countries or international organizations. However, the geographic, regional, eco-environmental, and socioeconomic characteristics in China are different from those of developed countries—including ecosystem structures and functions, sensitive aquatic organisms, economic conditions, living habits, priority pollutants, etc. Since the criteria derivations are influenced by all the above factors, it is questionable whether the current standards provide appropriate protection to the ambient water environment in China.

In order to deal with increasingly serious environmental pollution and to improve environmental management, the Chinese government has recently confirmed “scientifically establishing criteria” to be a national target. Some major projects have been set to support systematic WQC study in China. Currently, various WQC are being studied intensively in China, including aquatic life, biological, sediment quality, and human health criteria. Moreover, due to the existing pollution situation and its management requirements, the Chinese government and scientists are paying more attention to the development of freshwater WQC than they are to seawater WQC.

This short book introduced some WQC studies for toxic pollutants in China, including nitrobenzene, PAHs, triclosan, and so on. We hope the results of our research could provide valuable information for establishment of Chinese WQSs.

Toxic Pollutants in China

Study of Water Quality Criteria

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