Effective Cross-Border Monitoring Systems for Waterborne Microbial Pathogens

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This book provides a real-world analysis of how to quantify and prioritize water-based microbial threats to human health, how to design data collection systems that truly support management decisions, and how to build a comprehensive monitoring program when dealing with cross-boundary issues.

International borders and cross-boundary issues complicate water resource management. Even if nations or jurisdictions agree on the nature and source of the problem, differing legal frameworks complicate cross-border management, as the procedural steps and time necessary to implement a solution vary among entities. Waterborne pathogens transcend political boundaries and challenge the use of traditional political jurisdictions in meeting public policy objectives to protect human health. Disease outbreaks caused by waterborne pathogens continue to occur, even in the developed world.

There has been a pronounced trend toward new and increasingly complex institutions and policies to address regional water quality management issues. However, many questions continue to arise regarding the effective management of regional resources. These questions include how to design effective monitoring strategies and what can be learned from previous successes and failures. The Laurentian Great Lakes offers a model system for exploring these questions. This book will be a valuable reference source for researchers and graduate students working in environmental science, microbiology, engineering, and biological sciences, as well as all those concerned with water quality monitoring programs.