

Canadian Water Quality Monitoring Networks

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Biographical Sketch of Presenting Author

Rob Kent has a B.Sc in Environmental Biology from Trent University and a M.Sc. in Aquatic Toxicology from the University of Ottawa. He has worked in the area of water quality and environmental pollution assessment and management for the federal and provincial governments and consulting sector for almost 20 years. He led the development of national water quality guidelines and assessments under the federal-provincial-territorial Canadian Council of Ministers of the Environment (CCME) for 8 years, and has authored/co-authored over 35 publications in the areas of water quality, toxicology, guidelines and risk assessments. Over the last 3 years, his new Branch in Environment Canada has been spearheading the re-vitalization of water quality monitoring networks in Canada and he currently directing the national coordination and delivery of water quality monitoring programs and activities.

Abstract

As public awareness increases, so do the concerns and expectations relating to water quality and the overall health of Canadian freshwater ecosystems. In Canada, responsibility for assessing and managing water quality and aquatic ecosystem health is shared by all levels of government, with significant contributions by industry, academia, and non-government organizations. Due to this wide range of practitioners, there are many water quality related programs, activities and partnerships. However, there is currently no established national or *Canada-wide* water quality monitoring program or network in Canada. As a result, monitoring and surveillance activities are temporally and spatially fragmented; individual networks remain unlinked; monitoring of some key issues and stressors is lacking; and the data and information generated by monitoring activities is often not fully exploited. Consequently, water quality scientists and managers are seriously challenged to provide a comprehensive, national picture of the status and trends of water quality in Canada.

To address these critical issues, the establishment of a Canadian Integrated Network on Water Quality Monitoring is being explored. The aim of this approach would be to encourage and facilitate a *network of networks* of strategic monitoring programs that are driven by current scientific and policy questions, where information is collectively shared. An integrated network should also provide a balance between the generation of data and the timely interpretation and reporting of this information to Canadians.

Partnerships are fundamental to building this *network of networks* approach. The first step will be to bring together existing water quality monitoring programs, such as those conducted by various levels of government, industry, academia, and communities, and determine what water quality monitoring is currently underway. A national steering body could be established to oversee an analysis of national monitoring priorities and gaps. This would be followed by an assessment of new monitoring activities, capacities and technologies needed to address current and emerging issues and threats, such as microbial pathogens, pesticides, EDCs, pharmaceuticals, and GMOs.

The long-term goal is to achieve an integrated, national water quality monitoring network that is responsive to a wide range of relevant water quality issues and provides Canadians and decision-makers with timely, integrated and comprehensive water quality information needed to make informed decisions.