

## 1.0 INTRODUCTION TO THE MANUAL

The Canadian Council of Ministers of the Environment (CCME) through the Water Quality Task Group identified a need for water monitoring guidance. This sampling manual will provide a Canada-wide consistency in water monitoring.

In Canada, water quality monitoring and surveillance activities are being conducted by a broad range of practitioners. Federal, provincial, territorial and many municipal governments operate water quality monitoring networks for various reasons, and some of these networks include the collection of other types of samples (e.g., sediments) that maximize the information for the questions that are to be answered by the program. Water quality monitoring programs are often designed to determine if water is of acceptable quality for drinking, swimming, irrigation, or aquatic habitat. This can be assessed using guidelines such as those published through the CCME (1999). Monitoring programs may also be designed to determine if water quality is improving or deteriorating over time, and to identify what is causing the impact and/or deterioration of a river, stream or lake.

In May 2001, CCME Ministers agreed to link existing water quality monitoring networks in order to ensure that Canadians have access to comprehensive information on the quality and safety of water. In response, a Monitoring Sub-Group was formed under the CCME Water Quality Task Group (WQTG) to carry out this task.

In July 2006, the Monitoring Sub-Group of the Water Quality Task Group produced a document titled *A Canada-wide Framework for Water Quality Monitoring*. That report introduced several concepts and information related to water quality monitoring that could lead to Canada-wide consistency, comparability and efficiency. The report recommended the development of several companion technical documents to further this work, including one which describes and catalogues water quality sampling methods.

In early 2008, the WQTG Monitoring Sub-Group completed the first step in developing a Canada-wide guidance manual on water quality sampling, which was to inventory all of the existing sampling protocols and methods being employed by federal, provincial and territorial jurisdictions.

The objectives for this sampling manual are to provide users with:

- An integrated guidance manual of sampling protocols for water quality monitoring in Canada in order to increase consistency across Canada;
- An understanding of the main principles of ambient fresh water quality monitoring of lakes and streams, including collection of representative samples for each case so that scientific judgment can be applied for certain monitoring programs where it may not be appropriate (due to logistics, use of certain laboratories, or where a program has different objectives, etc.) to follow all aspects of certain protocols;
- An understanding of why different sensors are used in monitoring, and the need for proper calibration of each; and
- The ability to apply the understanding gained through the theoretical discussion and the practical real-life examples to sampling streams and lakes in a safe and accurate manner.