

## **St. Clair River – Lake St. Clair Drinking Water Protection Project**

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There have been over 700 documented chemical releases along the St. Clair River over the past 15 years. These spills are exposing water treatment systems and their customers to public health risks. The source water quality monitoring system currently in place to minimize these risks is inadequate and needs to be upgraded with a contaminant detection and alert system that can give water treatment plant (WTP) operators adequate information for timely warnings to the drinking water customers they serve.

The overall goal of this project is to protect drinking water from chemical releases and other threats to public health along the St. Clair River – Detroit River corridor. This corridor is the international waterway that runs between Canada and the State of Michigan and connects Lake Huron to Lake Erie.

The two main project tasks are:

1. Installing, operating and maintaining water quality monitoring instrumentation at nine water treatment plants along the St. Clair River and Lake St. Clair; and
2. Implementing a data management and communication system which will store and display the project monitoring data (on a real-time basis) and notify WTP operators when serious threats to water quality are present.

Implementation of the project will lead to quicker identification of pollutants, more prompt notification of partners regarding the presence and identity of water contaminants, and faster implementation of actions to protect the public from exposure to chemicals. The placement of monitoring equipment is based on knowledge of flow characteristics and potential hazards in the St. Clair River and Lake St. Clair. The selected instruments and sensors will allow the quick detection and/or identification of contaminants and will provide the data needed for notification and decision-making to protect the WTPs and public health.

The water quality monitoring equipment will be installed at nine water treatment plants during the winter and spring of 2007. The presentation will describe the water quality monitoring equipment installed at each WTP including a portable gas chromatograph/ mass spectrometer; the parameters being analyzed; the details of the contaminant notification system; and lessons learned while implementing the monitoring network.

Keywords: real-time water quality monitoring, source water, rivers, lakes, water treatment plants