

# Section 4

## Management Approaches for Source Water Protection

The Ira Township Water System relies on a combination of management approaches to accomplish source water protection. These management approaches are discussed below.

### 4.1 Infrastructure

As shown by the USGS work (Appendix B), the Ira Township Water System intake is highly susceptible to contamination from facilities on shore or on tributaries to Anchor Bay. The pattern of water circulation in the bay is influenced by wind direction and predictions of travel time are highly dependent on current weather conditions. It is unlikely that simple time of travel models would provide useful information to water treatment operators to manage source water during a major contamination event. Testing of intake water quality will be conducted during applicable events to determine if the intake water is acceptable for treatment and distribution.

Recognizing the unique situation of the Lake St. Clair ecosystem, recreation and water resources, and ongoing concerns with the degradation of water quality due to releases from industrial, municipal, agricultural, and residential sources; much effort has been placed on better understanding of water circulation patterns of Lake St. Clair, its connecting channels the St. Clair and Detroit Rivers, and Anchor Bay. USGS, with funding from MDEQ, has developed detailed two dimensional hydraulic models to aid in understanding current flows within the Lake St. Clair system. The complexity of the hydraulic flow regime within the high velocity, low surface area channelized riverine system versus the relatively low velocity, high surface area of the lake introduce a variety of challenges in mathematically modeling currents and contaminant flow paths as a function flow, location, season, time, weather, and waves. These efforts are ongoing and will result in a better understanding of how to protect the drinking water.

In addition, joint efforts between federal, state, and local units of government are underway to implement a real-time monitoring system for raw water intakes along the St. Clair and Detroit Rivers and Lake St. Clair. This network, when implemented, will establish vital communication and data links to evaluate and respond to releases to the waterways that impact the Ira Township system.

### 4.2 Education

Ira Township is a small community and many of the Township employees live in or near the community. Ira Township participates in several water quality programs through St. Clair County and participates in the St. Clair/Macomb County Interagency Work Group to promote improvements

to water quality in Lake St. Clair and Anchor Bay. As part of these activities, Ira Township has developed a public education plan that promotes public awareness for water quality issues. The plan includes categories for: watershed stewardship; storm drain system and waterways; reporting of illicit discharges; common house and yard storm water pollutants; waste disposal; and riparian land management. All of these categories provide some measure of source water protection by increasing public consciousness of water quality issues. The public education plan is included as Appendix C.

Partnerships with this effort include the St. Clair County Health Department, Southeastern Michigan Council of Governments (SEMCOG), St. Clair County Road Commission, and St. Clair County Environmental Services, and City of Port Huron.

### **4.3 Regulatory**

Ira Township is a zoned community and has prepared an overall Master Plan to control development for the township. The Master Plan is recommended by the township planning board, which is an advisory board. The Township Board utilizes resolutions to incorporate subsequent modifications to the Master Plan which they have used for the Sewer Master Plan, Recreation Master Plan, and the Anchor Bay Watershed Plan. Upon MDEQ approval of this document, the Township Board will pass a resolution that adopts the Source Water Protection Plan into the Master Plan by reference.

### **4.4 Outreach to Potential Contaminant Sources**

In addition to the source water protection initiatives undertaken as specified above, Ira Township will review each of the potential contaminant sources listed in Section 3 and Appendix D. Within 12 months of MDEQ approval of this plan, township staff will conduct a telephone survey using the call report format presented in Appendix E. A discussion of the facility's current operation, ownership, location, regulatory permits, regulated activities and potential impacts to the Ira Township drinking water system will be discussed. Facilities that are uncooperative will be flagged for a potential follow up site visit by township and/or regulatory personnel.

Based on funding and staff availability, a handout describing best management practices relative to drinking water protection could be developed for distribution to applicable sources and include information on:

- Landscaping practices
- Raw material handling
- Buffer zones for storm water runoff
- Secondary containment

- Leak detection
- Spill control
- Water Reuse and Recycling

In addition, staff will refer each facility to the resources available to evaluate their regulatory compliance on the State and MDEQ website ([www.michigan.gov](http://www.michigan.gov) and [www.michigan.gov/deq](http://www.michigan.gov/deq)). The township will provide an order form and self-assessment questionnaire for the “Michigan Manufacturers’ Guide to Environmental, Health and Safety Regulations” (Appendix E) for facilities to review at the township office. This will assist in strengthening the source water protection plan through regulatory awareness and compliance.