

## **Chapter 6 Future Direction**

The THM monitoring program of the Water Resources Management Division has become more systematic and comprehensive since its inception in 1996. However, to ensure the continuous success and maximum benefit from the program, it is necessary to plan the long-term future direction.

There are six main strategies that will be pursued in the upcoming years to address the problem of high THM levels in public water supplies across the province. These strategies are:

- **Data Gaps and Analysis**
- **Data Management and Dissemination**
- **THM Control Strategies**
- **Integrating with and Complementing other Programs**
- **Operator Training and Education**
- **Public Education and Communication**

### **Data Gaps and Analysis**

In this report, substantial data gaps have been identified in a number of public water supply systems. In view of these gaps, it is essential that THM monitoring continue until there is sufficient data for every public water supply across the province. Presently, there are about 106 water supplies with no THM data, and about 125 water supplies with inadequate seasonal and spatial data. In order to fill-in the identified data gaps, it is essential that every public water supply be monitored to provide adequate seasonal and spatial coverage. Most importantly, with sufficient data for every surface water supply, comparisons can be made to the national guidelines, the extent of the THM problem can be assessed, and systems can be prioritized in order to implement THM control strategies.

### **Data Management and Dissemination**

There must be constant improvements to the provincial THM database. The ultimate goal is to make the database as user-friendly as possible with the ability to provide THM data, as well as other data such as precursor levels, chlorine residuals and others, in the most appropriate format for a selected community or parameter. In addition, the data dissemination process could be improved and made more efficient. It is essential to continue to disseminate the THM data annually to all municipalities along with a technical interpretation of the results in reference to the national guideline. To this end, plans are being developed to report data to the municipal governments on a quarterly basis. In order to provide frequent data updates to the general public, the departmental web page (<http://www.gov.nf.ca/env/Env/waterres/Surfacewater/THM/THM.asp>) dealing with THMs will be updated on a regular basis.

## **THM Control Strategies**

Based on the results of the available THM data for the water supply systems with THM levels above the national guidelines, it is essential that the control measures detailed in Chapter 5 be assessed and implemented on a case-by-case basis. This task will be a significant long term undertaking because of the complex nature of preventative and mitigative THM control measures. For this reason, the most appropriate control strategy will be decided in consultation with municipal governments and other provincial government departments such as Municipal and Provincial Affairs, Government Service Center and Lands, and Health and Community Services. Implementation of various control strategies will be carried out as pilot projects for selected water supply systems. In particular, as described in Chapter 5, the Chlorine Demand Management Model will be tested on a number of water supplies for THM control purposes. Once a specific control strategy for a water supply is chosen, it must then be implemented and evaluated on a regular basis to assess its performance and effectiveness.

Pilot project results along with data collected through other phases of the program will be used to develop chlorine demand guidelines. Case-by-case analysis of each water supply will continue until the THM levels have been reduced to acceptable levels in all public water supplies.

## **Integrating with and Complimenting other Programs**

For the optimal utilization of existing and future available resources, the THM monitoring program will be carried out simultaneously with other drinking water quality monitoring (source water and tap water) activities of the Water Resources Management Division. It will remain an integral part of the Protection of Public Water Supply Areas Program. The monitoring data and the results of THM control strategies will complement many other programs of the government.

## **Operator Training and Education**

Water treatment plant operators training and education is one of the important steps of overall THM control strategy. Lack of proper training and professional development of operators has been identified as a major problem with respect to the proper operation and maintenance of water treatment facilities. To address this, the Water Resources Management Division is in the process of hiring a new staff member who will be responsible to train municipal operators on the use of THM control measures. This staff member will be the primary departmental contact on THM and other drinking water quality issues. The division is also in the process of preparing a long-term plan for the training of municipal operators. The technical framework for this long-term plan will be based on the following:

- Current Status
- Training Needs Survey
- Chlorine Demand Management for THM Control

- Assessment and Implementation of Alternative Technologies for THM Control
- Regional Training Courses
- Site Visits and Training

### **Public Education and Communication**

Public education and communication between government and citizens will also be a main priority in the upcoming years. It is necessary to ensure that the residents of Newfoundland and Labrador understand the issue of THMs in drinking water and feel confident that the public water supplies are being improved to continue to provide water that is safe and of good quality.