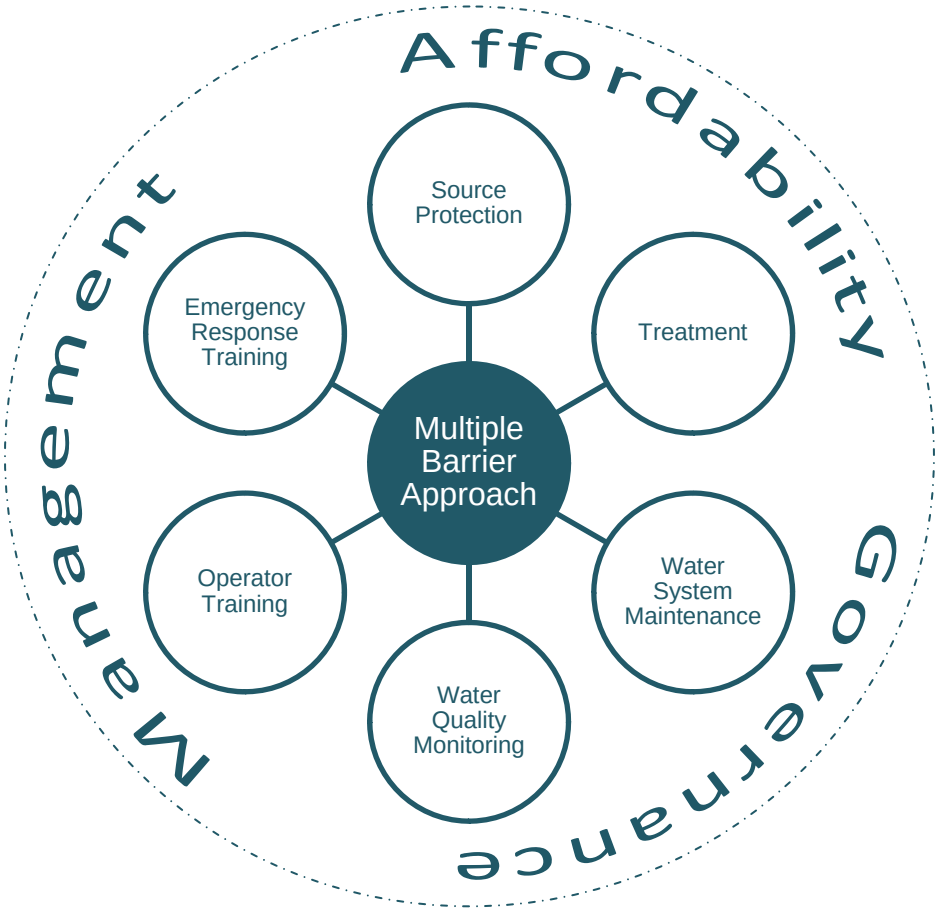
COMPREHENSIVE DRINKING WATER SOURCE-TO-TAP ASSESSMENT GUIDELINE

MODULE 6
REVIEW FINANCIAL CAPACITY AND GOVERNANCE OF THE WATER SERVICE AGENCY



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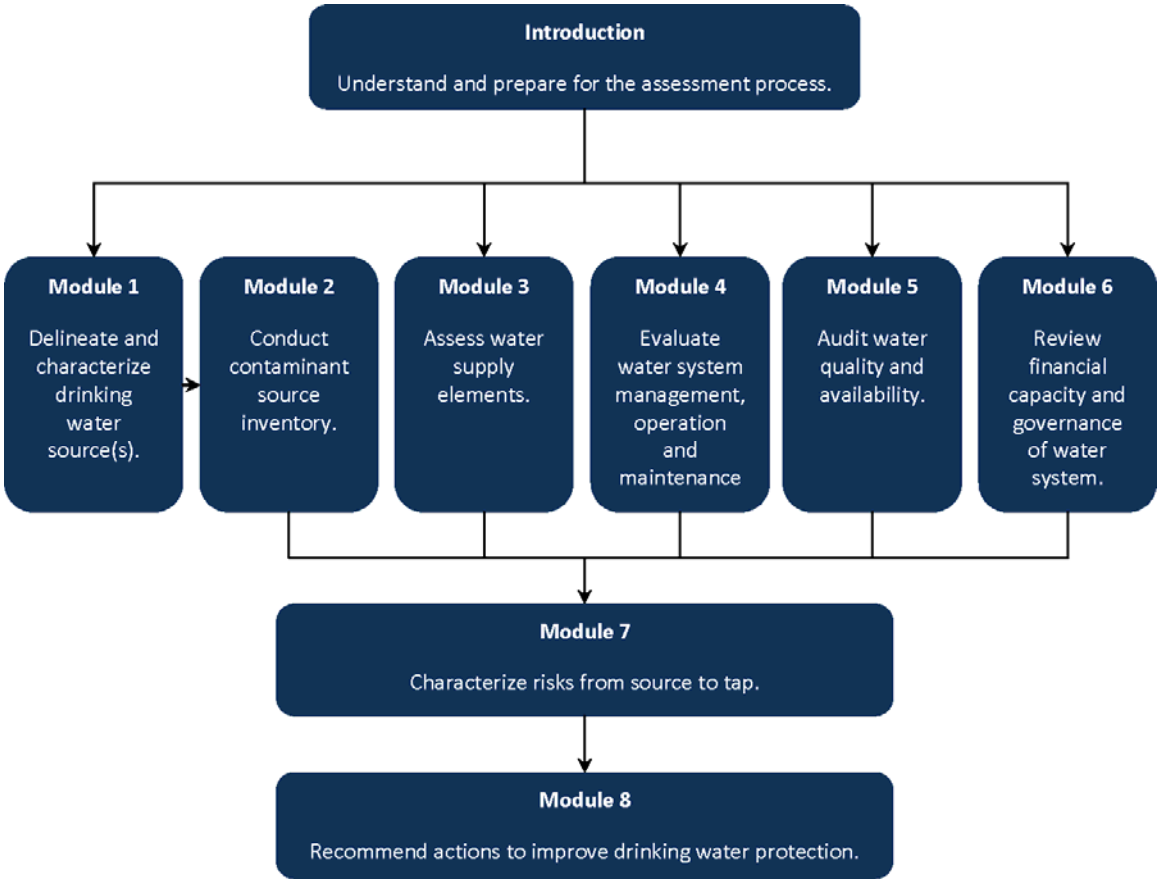
Ministry of Healthy Living and Sport

Comprehensive Drinking Water Source-to-Tap Assessment Guideline Process



Here are the steps in the source-to-tap assessment process, through the Introduction and eight modules. Note that the Introduction should be read prior to undertaking any assessment.

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1. INTRODUCTION

For a water system to be viable over the long term, it must be able to meet both short-term and projected future financial needs. Even the smallest water systems incorporate numerous supply elements to deliver safe drinking water to their customers. These components require ongoing monitoring and maintenance, as well as occasional major repairs, upgrades and replacements.

Module 6 (this module) of the drinking water source-to-tap assessment involves an evaluation of the water service agency's governance structure and financial capacity. This includes a review of the financial management of the water system, available funding mechanisms, governance and accountability, and response to development pressures.

Module 6 requires an understanding of water system governance issues affecting accountability and capacity to deliver safe drinking water. Although both the governance structure and the performance of an elected body within a governance structure are important for the proper functioning of a water system, they are distinct from one another and should be considered separately.

Consumers and regulatory authorities have expectations that water suppliers will provide water free of harmful or objectionable elements (e.g., pathogens, toxic chemicals, tastes and odours) in sufficient volumes 24 hours a day, while maintaining adequate pressure in the distribution system. To meet these expectations, water service agencies require sufficient financial resources to employ qualified management and certified operations personnel, fund onsite monitoring and laboratory analyses, maintain infrastructure, create a source/drinking water protection plan, and upgrade system components.

Assessments of financial capacity for water systems should be conducted by professionals with experience in financial planning for water systems. The cooperation of the water system manager (or senior financial official) with a member of the source-to-tap assessment team will be needed for the financial assessment.

1.1. Hazard and Vulnerability Identification

Throughout the process of evaluating water supply elements in the source-to-tap system, assessors identify and describe hazards that pose a threat to drinking water safety or sustainability, and vulnerabilities in the multiple barrier (multibarrier) system or other protective systems (e.g., security).

Hazards are recorded in the Hazard Identification Table (see Table 6-1), which is used to document hazards in a consistent way throughout the source-to-tap assessment process. Information on strengths and vulnerabilities in the drinking water supply system identified throughout the assessment is recorded, compiled from each module, and used to inform the multiple barrier system evaluation in Module 7.

1.2. Module 6 Assessment Team

A broad range of issues can exist in a water supply system from source to tap. As a result, comprehensive drinking water assessments require a multidisciplinary assessment team rather than a single assessor. Each module of the Comprehensive Drinking Water Source-to-Tap Assessment Guideline requires some specialized skills and a unique spectrum of knowledge with respect to water sources and systems.

Collectively, the assessment team for Module 6 should have knowledge and experience related to:

- Water system governance structures and their implications for financial and management capacity.
- Financial planning for water supply systems.
- Drinking water chemistry.
- Microbiology and microbes commonly found in drinking water.
- Public health issues related to drinking water.
- Legislation related to drinking water, surface water and groundwater.
- Risk assessment and risk management.

2. ASSESSMENT COMPONENTS

2.1. Evaluate the Governance and Accountability Structures for the Water Service Agency

Governance structure of a water service agency has inherent implications with regard to management, fee systems and eligibility for government funding. Common governance structures are local government systems—including regional districts, municipalities and improvement districts, and others, such as water users' communities and private water utilities. Many small water systems have informal governance structures.

Organizational, management and technical capacity are implicit in water system size. By design, larger water service agencies have greater human and financial resources to meet consumer and regulatory requirements. They also tend to have a larger customer base to draw upon for ongoing operation and maintenance costs, as well as capital expenditures for upgrades.

Smaller water systems have added challenges in providing safe drinking water because they often do not have in-house technical or operational expertise, are disadvantaged due to a lack of economies of scale, and lack a customer base altogether or have a smaller customer base to fund the water system.

Evaluate the governance structure of the water service agency and its associated technical, operational and financial capacity. An evaluation of governance options should be conducted under either of two circumstances:

- It is clear that the governance model is an impediment to the provision of safe, clean drinking water; or
- There are opportunities to enhance the ability of a water service agency to provide safe, clean drinking water through changes in the governance model (e.g., conversion to regional district or municipal jurisdiction, or consolidation of waterworks with nearby systems).

For consumers to be confident that the water coming out of the tap is safe, it is crucial that there is one person or organizational entity ultimately responsible that can be held accountable for delivering potable water.

Some smaller systems have no distinct identifiable water supplier. These systems can be composed of a collection of households that fund the operation of the system with one person (often voluntarily) responsible for carrying out maintenance activities. The vulnerability of the water system increases when no one person or entity is accountable for supplying safe drinking water to consumers.

Lack of accountability may be a drinking water hazard where a water system has no single identifiable owner responsible for providing safe drinking water. Although evaluating how staff is organized and accountable for carrying out specific responsibilities is important, this assessment is not intended to be a performance review of individual staff members.

2.2. Assess the Management and Financial Capacity of the Water Service Agency

Water supply systems require adequate funding for operation and maintenance, management and planning processes, and capital works upgrading and replacement. The only way a water supplier will be able to ensure that it can have adequate funds for short- and long-term needs is for the system to be self-sustaining. When a water system is self-sustaining, it has an annual budget with enough funds to support ongoing operation and maintenance costs, as well as annual contributions to a reserve fund for future

expenditures or emergencies. Becoming self-sustaining may pose a significant challenge for some water service agencies, but it should be a goal to work towards.

Assess the management capacity of a water system, addressing the following questions:

- Are professional/qualified staff managing and administering the water service?
- Are there sufficient personnel to operate and manage the water system?
- Does the water supplier have access to technical and professional services such as:
  - Technical/operations assistance?
  - Engineering advice?
  - Financial advice?
  - Insurance?
  - Legal counsel?
- Is an up-to-date water system assessment (engineering report and capital works plan) in place?
- Does the water supply system have an adequate renewal plan? Refer to the *InfraGuide Best Practices on Developing a Water Distribution System Renewal Plan* (see References).
- Has the elected body adopted and prioritized governance principles?
- Has the elected body enacted objectives, policies and bylaws that are based on the adopted governance principles?
- Does the elected body govern in a manner consistent with the adopted principles, objectives and policies?
- Does the governance model provide for a clear accountability structure?
- Does the governance model provide a range of tools to fund and recover the cost of required services?
- Does the governance model provide the tools required to manage factors that contribute to the provision of adequate supply or clean, safe drinking water?

Assess the financial capacity of a water system, addressing the following questions:

- What is the current water pricing structure? Does it meet the present and projected future needs of the water system?
- Does the water supply system have adequate liability insurance coverage?
- What mechanisms are available to the water service agency to raise or access funds?
- Is an up-to-date financial plan in place that incorporates an annual operating budget and capital expenditure program projecting future needs?
- How many consumers use the water system?
- What types of consumers use the water system?
- What are the annual costs and revenues?
- How does the system fund capital projects?
- What is the system's approach to cost recovery?
- What existing debt does the system have?

- What are the existing revenues of the system?
- What is the rate structure and approach to pricing?

2.3. Determine if Community Growth and Development Pose a Significant Risk to the Provision of Drinking Water

Community development pressures may adversely affect a water system by bringing in additional water service connections, increasing demand on the water source, or introducing added risks of contaminating the drinking water source. Water suppliers need to anticipate development pressures, plan for them and, ideally, have a voice in local land use decision-making processes.

- Determine if the water service agency is able to deal effectively with growth management issues.
- Identify development pressures in the community that may impact the water system.
- Determine if the water service agency is able to deal effectively with growth management issues.
- Determine if the water supplier has a voice in local land-use decision making.
- Assess the relative risk that community growth and development pose to the provision of safe drinking water.
- Determine if the plans and initiatives for the water system reflect adopted community plans.
- Determine if there is a well established and effective method by which the water purveyor is made aware of, and can voice concerns about, changes in land use plans, zoning and subdivision servicing—in cases where the water service agency does not have jurisdiction in land use plans and development.
- Determine if the water service agency has enacted servicing standards, specifications and bylaws to effectively manage growth.

2.4. Describe How the Governance Structure, Organizational Capacity, Development Pressures and Funding Influence the Physical Production of Safe Drinking Water

- Identify the interrelationships between the factors and how they reinforce one another.
- Determine if the water supplier is in a position to make the necessary changes to achieve standards or implement the best practices required to supply safe drinking water.

3. ASSESSMENT DOCUMENTATION AND REPORTING

3.1. Assessment Report

The following elements should be included, as a minimum, in the assessment report for Module 6:

- Brief description of the governance and management system, identifying the accountable person or body.
- Where water system governance is insufficient to meet present or future water supply requirements, discussion of advantages and disadvantages of governance or business restructuring options available to the water supply system.
- In the analysis of water system capacity, identification of the key financial and governance risk factors and their underlying causes.
- Brief description of any imminent development pressures, and the water system's response to the pressure.
- Completed Module 6 hazard identification table (see Table 6-1).

3.2. Hazard Identification Table

Management and financial risk factors identified for the water system are considered drinking water hazards and should be incorporated into the Module 6 hazard identification table (see Table 6-1).

Table 6-1. Sample Module 6 Hazard Identification Table

Hazard No.	Drinking Water Hazard	Possible Effects	Existing Preventative Measures	Associated Barrier(s)
6-1	Absence of a long-term capital expenditure program	Inability to replace inadequate infrastructure or equipment. Aging or inappropriate equipment could leave water vulnerable to contamination.	None identified	Governance, management, affordability
6-2	Water service agency is a strata council and no single individual is accountable for providing safe drinking water.	Lack of accountability can lead to poor management practices.	One individual maintains the water system on a weekly basis.	Governance, accountability

APPENDIX 6A:
MODULE 6 ASSESSMENT AT A GLANCE

Components	Recommended Methods	Documentation and Reporting
1. Assess the management and financial capacity of the water service agency.	• Evaluate the qualifications of staff administering the water service. • Is there an up-to-date financial plan in place? • How is the service funded? • How are costs recovered? • Evaluate the water pricing structure for present and future needs. • Does the water supply system have adequate liability insurance coverage? • How is service delivery organized? • Does the water supplier have access to technical and professional services?	• Identify as a hazard or vulnerability any practice, process, situation (or absence of one) that could put the safety of water at risk.
2. Evaluate the governance and accountability structures for the water service agency.	• Identify the governance and accountability structures.	• Describe the governance and accountability structures. • Identify as a hazard or vulnerability any practice, process, situation (or absence of one) that could put the safety of water at risk.
3. Describe how the governance structure, organizational capacity and funding influence the physical production of safe drinking water.	• Identify the interrelationships between the factors and how they reinforce one another.	• Determine if the water supplier would ever be in a position to achieve the standards or implement the best practices required to supply safe drinking water. • Identify as a hazard or vulnerability any practice, process, situation (or absence of one) that could put the safety of water at risk.

Components	Recommended Methods	Documentation and Reporting
4. Determine if community growth and development pose a significant risk to the provision of safe drinking water.	• Identify development pressures in the community that may have an impact on the water system. • Determine if the water service agency is able to deal effectively with growth management issues. • Identify if it has a voice in local land use decision making.	• State the relative risk that community growth and development pose to the provision of safe drinking water. • Identify as a hazard or vulnerability any practice, process, situation (or absence of one) that could put the safety of water at risk.

APPENDIX 6B: RECOMMENDED RESOURCES

General Online Information Tools

BC Small Community Infrastructure http://bc.smallcommunityinfrastructure.ca/

BC Water and Wastewater Association
http://www.bcwwa.org/committees/smallwatersys/index.php

Drinking Water Risk Management

Canadian Council of Ministers of the Environment (CCME). 2004. *From source to tap: Guidance on the multi-barrier approach to safe drinking water*. Produced jointly by the Federal-Provincial-Territorial Committee on Drinking Water and the CCME Water Quality Task Group. http://www.ccme.ca/sourcetotap/mba.html.

New Zealand Ministry of Health. 2005. *A Framework on How to Prepare and Develop Public Health Risk Management Plans for Drinking-water Supplies*. Wellington: Ministry of Health.
http://www.moh.govt.nz/moh.nsf/0/CCA65C18B2E29251CC256A7900082B9C/$File/aframeworkfordevelopingaphrmp.pdf

Water System Planning, Funding and Renewal

National Guide to Sustainable Municipal Infrastructure (InfraGuide). 2003. *Developing a Water Distribution System Renewal Plan.*
http://gmf.fcm.ca/files/Infraguide/Potable_Water/Develop_water_distr_syst_renewal_plan.pdf

National Guide to Sustainable Municipal Infrastructure (InfraGuide). 2003. *Developing Levels of Service.*
http://www.sustainablecommunities.fcm.ca/files/Infraguide/Decision_Making_Investment_Planning/Developing_Levels_Service.pdf

National Guide to Sustainable Municipal Infrastructure (InfraGuide). 2003. *Managing Infrastructure Assets*
http://www.sustainablecommunities.fcm.ca/files/Infraguide/Decision_Making_Investment_Planning/Managing_Infrastr_Assets.pdf

National Guide to Sustainable Municipal Infrastructure (InfraGuide). 2003. *Dedicated Funding.*
http://www.sustainablecommunities.fcm.ca/files/Infraguide/Decision_Making_Investment_Planning/Dedicated_Funding.pdf