

Protecting Drinking Water at the Source

Useful Information to Enhance Water Utility
Source Water Protection Programs



**American Water Works
Association**

Dedicated to the World's Most Important Resource®

Source Water Protection

What does source water protection involve, and why is it important?

The American Water Works Association (AWWA) has developed this brochure to provide a concise overview and suggest ways to protect an invaluable natural asset.

Why is source water protection important? Water utilities rely on sustainable sources of water that can be treated to provide reliable, high-quality drinking water. Source water protection is the first of several barriers to ensure safe drinking water, followed by other components of a multi-barrier approach that includes effective water treatment, secure distribution systems, and monitoring and evaluation.

Source water protection provides many benefits, including public health protection, watershed and ecosystem improvements, and socioeconomic benefits. It involves identifying potential threats to drinking water, assessing the risk associated with those threats, and establishing proactive measures that can help address them.

Did You Know?

A consistent supply of high-quality water is safer, easier, and much more cost-effective to treat.

Relevant Definitions

- **Source water** is a raw, untreated supply of water – typically surface water or groundwater – used for current or potential future drinking water.
- **Source water protection** is a proactive approach to safeguarding, maintaining, or improving the quality and/or quantity of drinking water sources and their contributing areas.
- **Stakeholders** are any group or individual interested in, affected by, or having an impact on source water protection activities.

AWWA's Standard

AWWA, with the American National Standards Institute, has established the ANSI/AWWA G300 Standard for Source Water Protection, which outlines six key components of a local source water protection program.

Figure 1, from *AWWA's Source Water Protection Justification Toolkit*, outlines the components of a source water protection program.

Regulatory Framework

There are various regulatory approaches to source water protection among federal, state/provincial, and local governments. At the federal level, requirements for source water protection are limited in large part because local land use is an issue managed by local governments and land use policies. States and provinces take varying approaches to continued source water assessment and protection measures. Some approaches are voluntary where others require implementation of source water protection programs for surface water and/or groundwater used as drinking water supply sources.

Cover image: Central Arkansas Water

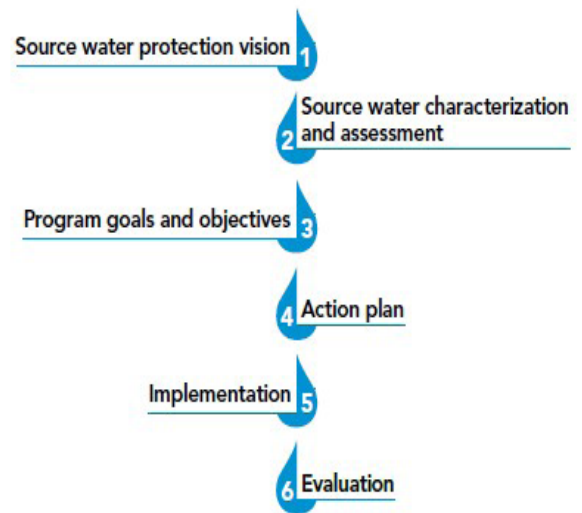


Figure 1 Components of a Successful Source Water Protection Program

Source: *Source Water Protection Justification Toolkit*. AWWA, 2018.

The 1996 Amendments to the Safe Drinking Water Act (SDWA) established a regulatory framework for source water protection.

This required states to develop source water assessment programs that define source water protection areas for water systems, inventory potential contaminant sources, determine water system susceptibility to contaminant sources, and provide the assessment results to the public. There is no federal requirement to implement local source water protection programs based on these assessments, although some states have established related requirements.

Canadian partners also have multi-barrier regulatory frameworks for source water protection.

For example, Ontario has implemented a comprehensive drinking water protection framework from source to tap under the Clean Water Act, 2006, which includes strong laws and regulations; health-based standards for drinking water; regular and reliable testing; action on Adverse Water Quality Incidents; mandatory licensing; operator certification and training requirements; a multi-faceted compliance improvement toolkit; and public engagement. For more information, visit: <https://www.ontario.ca/page/source-protection>.

Engage Utility Staff and the Community

1. Highlight information about the water supply and source water protection in consumer communications such as Consumer Confidence Reports (CCR) in the U.S., or Canada's Drinking Water Report Card.
2. Identify ways that community residents and businesses can help protect source water through everyday actions – visit the [What You Can Do For Source Water Protection Week](#) webpage.
3. Share a copy or link to your local source water assessment and/or protection plan, along with guidance on how to ask questions or provide feedback.
4. Post information to social media related to drinking water sources and source water protection. Encourage engagement through comments and interactive content.
5. Share educational materials about source water protection. Examples could include training courses, webinars, workshops, and K-12 school programs. The [Source Water Collaborative Learning Exchange](#) is a great place to start.
6. Issue a newsletter or press release that focuses on the importance of source water protection, how the utility approaches it, and actions everyone can take to protect drinking water supplies.
7. Hold a poster, photo, essay, or art contest for kids to show what source water protection means to them.
8. Host a live or virtual watershed tour to help people connect land use activities to the quantity and quality of water for drinking water supplies.
9. Connect with local watershed and conservation organizations to discuss ways to partner on source water protection efforts.
10. Host and/or participate in community volunteer activities that protect the environment such as watershed cleanups, stenciling stormwater drains, and planting trees or riparian buffers.



Educate Customers Through Communications

Utilities of all sizes can share source water protection information with customers in regular communications. Including information about the source of supply, importance of source water protection, and ways customers can help protect shared water resources can help build a broad, educated, and supportive ratepayer base.

In the U.S., the Consumer Confidence Report (CCR) Rule requires all community public water systems to prepare an annual report on the quality of their drinking water. This includes specific information about the source of water including the type of water (e.g., surface water, groundwater), commonly used name and location of the water source, availability and access to the source water assessment, and susceptibility to potential sources of contamination. America's Water Infrastructure Act (AWIA) of 2018 includes provisions to enhance the understandability and frequency of CCRs.

CCRs are a great tool to connect with and inform customers. AWWA's [Communicating Source Water Protection Efforts in Consumer Confidence Reports Guidance](#) provides additional information on source water protection topics to include in CCRs and successful communication tips.



In Canada, information about federal and provincial/territorial programs are available in the links below.

Ontario's Annual Source Water Protection Reports and consumer education resources are available from the Source Protection Authorities (SPAs) and [Conservation Ontario](#). To see how different provinces and territories approach source protection, explore the links below:

- [Ontario Ministry of Environment, Conservations and Parks](#)
- [BC Ministry of Environment and Climate Change Strategy](#)
- [Alberta Environment and Parks](#)
- [Quebec Ministère de l'Environnement et de la Lutte contre les changements climatiques](#)
- [Nova Scotia](#)
- [New Brunswick](#)
- [Prince Edward Island](#)
- [Newfoundland and Labrador](#)
- [Northwest Territories](#)

Call to Action

- Incorporate source water protection into utility programs and activities.
- Work with stakeholders to identify priority issues and partner on protective measures.
- Educate and engage utility employees and customers about sources of supply and what they can do to help protect them.

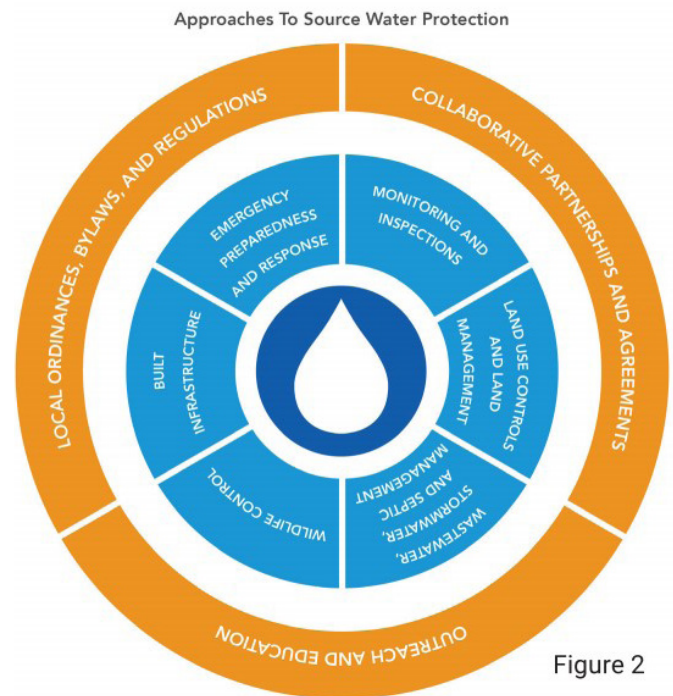
Approaches to Source Water Protection

Source water protection activities should target the priority threats to water quality and public health. When evaluating potential approaches, it is important to consider several factors such as cost and timeline for implementation, technical complexity, associated legal restrictions, and key stakeholders responsible for and/or affected by the activity. Successful source water protection programs will likely require a combination of activities. Examples of common activities are provided in

Figure 2.

Partners in Source Water Protection Efforts

- Drinking water systems and utilities
- Customers and community stakeholders
- State/provincial drinking water primacy agencies
- State/provincial environmental agencies
- Local planning and emergency management agencies
- Watershed organizations and conservation authorities
- Land trusts
- Soil and water conservation districts
- Federal, state and provincial forestry agencies
- Natural Resources Conservation Service – State/provincial and field offices
- National Source Water Collaborative and its member organizations



Source: *Source Water Protection Justification Toolkit*. AWWA, 2018.

References

- [ANSI/AWWA G300 Source Water Protection Standard and Operational Guide](#)
- [Source Water Protection Justification Toolkit](#)
- [Source Water Protection Performance Metrics Report and Tool](#)
- [Communicating Source Water Protection Efforts in Consumer Confidence Reports Guidance](#)
- [AWWA Source Water Protection Resource webpage](#)
- [Source Water Collaborative](#)
- [USEPA Source Water Protection](#)
- [Conservation Ontario](#)
- [Partnership for Safe Water](#)



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