



## Compendium on Source Water Protection in the Great Lakes Basin

### Introduction and Purpose

U.S. EPA's 2016 [Drinking Water Action Plan](#) identifies building collaborative partnerships for watershed protection as critical to achieving its goal of strengthening source water protection and resilience of drinking water supplies. The Great Lakes Source Water Initiative, part of the Great Lakes Commission and The Nature Conservancy's Blue Accounting program, will bring together water professionals from around the Great Lakes to promote shared, regionwide goals for protecting sources of drinking water. Currently, source water protection in the Great Lakes basin is carried out by government agencies from the federal to local level, as well as several NGOs in both the United States and Canada. This document provides a brief overview of the programs, policies, and entities working to protect the surface water that serves as the source of drinking water for 48 million people in the Great Lakes basin.

### Federal Source Water Assessment and Protection

In accordance with federal policies in both the United States and Canada, assessments have been completed for nearly all of the surface water bodies serving as the sources for public drinking water systems in the Great Lakes basin. However, a specific mandate to develop and implement protection plans to address any issues identified by these assessments remains absent at the federal level in both countries.

In the **United States**, federal source water protection initiatives are established within the Safe Drinking Water Act (SDWA). A [1996 amendment to the SDWA](#) created the Source Water Assessment Program (SWAP) that requires states to assess the status, potential sources of contamination, and other risks to the source water of public drinking water systems. Although these assessments are intended to serve as the foundation for communities to take a proactive approach to source water protection, the SDWA does not mandate the development or implementation of source water protection plans. In this way, the 1996 amendment is distinguished from the [1986 Amendments to the SDWA](#) that mandate the implementation of wellhead protection programs aimed at protecting groundwater sources, but whose protections do not extend to surface water relied on by public drinking water systems.

In **Canada**, the [Canada Water Act](#) serves as the legal framework for implementing programs related to the conservation, development, and utilization of water resources. In addition to setting federal standards for water quality and management, this law facilitates collaboration between the federal and provincial governments in the formulation of comprehensive water resource management plans. Similar to the United States, provincial agencies are often responsible for the implementation of federal mandates.

### State and Provincial Source Water Assessment and Protection

In the United States, source water protection efforts at the state level are entirely voluntary, and protection plans have yet to be developed for the majority of surface water intakes. In **Michigan**, two municipal water suppliers have voluntarily developed and implemented MDEQ-endorsed protection plans. In **Ohio**, the wellhead protection and SWAP programs have been merged, and hundreds of communities (many of which are located within the Great Lakes basin) have received OEPA endorsement for their source water protection efforts. For non-municipal systems, OEPA-approved "Drinking Water Source Protection Checklists" are sufficient as a protection plan. In **Pennsylvania**, the PDEP has approved at least nine protection plans statewide, including one for the headwaters of the Genesee River that drains



into Lake Ontario. In **Minnesota**, the MDH has endorsed three protection plans for surface water systems located outside of the Great Lakes basin, along the Mississippi River. The environmental agencies of the four other Great Lakes states do not currently administer source water protection programs, although several of them offer guidance and resources for communities interested in voluntarily creating plans.

In Canada, provincial policies have filled the federal policy gap and spurred the implementation of extensive source water protection measures. In **Ontario**, [the Clean Water Act, 2006](#) mandates the assessment of threats to sources of drinking water and the implementation of protection plans. These watershed-based plans are created and implemented by regional conservation authorities with assistance from municipal, provincial, and other regional stakeholders. **Quebec's** [2002 Water Policy](#) serves a similar role, and outlines an ambitious strategy for provincial water policy and management. This policy was reinforced with the passing of the [Quebec Water Act](#) in 2009 which enabled the creation of 40 watershed organizations that are tasked with creating and implementing integrated watershed management plans.

**Table 1. Overview of State and Provincial Source Water Assessment and Protection Programs**

State or Province	Agency responsible for administering Source Water Program(s)	SWP Website	Endorsed Protection Plans?	Notes on Source Water Protection Plans (or equivalent) and additional resources
Michigan	Department of Environmental Quality	<a href="#">MDEQ SWAP</a>	Yes	Surface Water Intake Protection Programs (SWIPPs) have been approved for <a href="#">Grand Haven and Holland</a>
Ohio	Environmental Protection Agency	<a href="#">OEPA SWAP</a>	Yes	The OEPA provides lists of <a href="#">Public Systems with OEPA Endorsed SWPPs</a> and <a href="#">Non-Municipal Systems w/ Approved SWPPs</a>
Pennsylvania	Department of Environmental Protection	<a href="#">PDEP SWAP</a>	Yes	SWPPs have been approved for several municipal agencies in Potter County in relation to the <a href="#">Triple Divide Watershed Coalition</a> which includes the headwaters of the Genesee River
Quebec	Ministry of Sustainable Development, Environment and the Fight Against Climate Change	<a href="#">MSDEFACC SWAP/ SWPP</a>	Yes	The MSDEFACC has subdivided the province into <a href="#">40 management zones</a> and provides extensive resources regarding source water protection efforts and guidelines for assessment
Ontario	Ministry of the Env. and Climate Change	<a href="#">OMECC SWPP</a>	Yes	The OMECC has approved 22 SWPPs, the majority of which are <a href="#">located within the Great Lakes Basin</a>
Minnesota	Department of Health	<a href="#">MDH SWAP</a>	Yes	3 SWPPs have been approved outside of the Great Lakes basin watershed; the MDH has also developed <a href="#">Recommendations and Guidance for SWPP Development</a> for interested communities
New York	State Department of Health	<a href="#">NYSDH SWAP</a>	No	No SWPPs have been approved by the NYSDH for surface water intakes within the Great Lakes basin
Wisconsin	Department of Natural Resources	<a href="#">WDNR SWAP</a>	No	The WDNR <a href="#">SWPP program</a> is largely focused on wellhead protection, but does provide <a href="#">Recommendations for surface water system source water area delineations</a> that could be used to develop and implement SWPPs
Illinois	Environmental Protection Agency	<a href="#">IEPA SWAP</a>	No	No SWPPs have been approved; however, the IEPA offers a <a href="#">Guide to Developing SWPPs</a> for interested communities who rely on surface water intakes
Indiana	Department of Environmental Management	<a href="#">IDEM SWAP</a>	No	No SWPPs have been approved; however, IDEM provides resources via their <a href="#">Watershed and Nonpoint Source Water Pollution Planning</a>



### **NGOs, Local Entities, and Partnerships**

Many non-governmental groups are also actively working to promote source water protection in the Great Lakes basin. The nonprofit [National Source Water Collaborative](#) brings together 30 different collaborative efforts across the United States to share information and encourage coordination between entities working toward the common goal of source water protection. Three groups that are members of the National Collaborative are active within the Great Lakes basin. They are the [Triple Divide Watershed Coalition](#) whose jurisdiction includes the headwaters of the Genesee River, the [County Water Quality Coordinating Committees, NY State](#) which works in areas draining into Lake Ontario, and the Ohio Balanced Growth Initiative which is administered by the [Ohio Lake Erie Commission](#).

Several additional NGOs currently provide resources and promote source water protection including:

- The [Association of Clean Water Administrators](#) (ACWA) consists of state, interstate, and territorial officials who are responsible for the implementation of surface water protection programs throughout the United States. In addition to policy and advocacy work, ACWA provides toolkits to assist state water quality regulators with nutrient management activities.
- The [American Water Works Association](#) (AWWA) maintains the *Source Water Protection Resources Community* which informs the water industry about current resources, tools, issues, and developments related to source water protection.
- The [Water Research Foundation](#) provides information and resources including a source water protection cost/benefit tool that is designed to evaluate different protection strategies.
- The [Association of Metropolitan Water Agencies](#) (AMWA) is an organization of the largest publicly owned drinking water systems in the United States that identifies source water protection as one of its top priorities.
- The [Association of State Drinking Water Administrators](#) (ASDWA) represents state drinking water programs, which is typically where source water protection programs reside.

Although a source water protection program has not been created under federal law in the United States, the federal government provides support via partnerships with nonprofit organizations: the [USDA-Farm Service Agency](#) partners with the [National Rural Water Association \(NRWA\)](#) to administer the [Grassroots Source Water Protection Program](#). This program was authorized by the 1985 Farm Bill and provides financial and technical resources to assist state Rural Water Associations with source water protection activities. Communities in each of the eight Great Lakes states have taken advantage of this funding opportunity. For example, the [New York RWA](#) has provided technical assistance for source water protection through this program for over 20 years.

### **Summary and Next Steps**

Each of the Great Lakes states and provinces have taken the critical first step of assessing the vulnerabilities of their surface water resources; however, efforts to protect these resources remain uneven across the basin. While the provinces currently administer sophisticated source water protection plans, a policy gap in the United States has led to decreased focus on source water protection of surface waters. Lack of coordination between jurisdictions and insufficient funding also create challenges for source water protection. The Source Water Initiative will create a standardized platform for information sharing and foster an enhanced understanding of major issues on a regional scale. This will pave the way for the advancement of collaborative solutions for shared challenges, with the ultimate goal of increasing the efficiency and effectiveness of source water protection efforts for the entire Great Lakes basin.