FACT SHEET

Division of Drinking and Ground Waters
April 2014

Source Water Protection in Ohio

Ohio's Source Water Protection Program helps public water suppliers protect drinking water sources, such as streams and aquifers, from contamination. It addresses the more than 4,500 public water systems in Ohio.

The source water protection program has two phases. The first is collecting information about the source water — the assessment phase. There are three steps to an assessment: delineating the protection area; identifying the potential contaminant sources in that area; and determining the susceptibility of the aquifer. Some public water systems had completed their assessments under the Wellhead Protection Program. In 2000, Ohio EPA staff began to assess the remaining systems. By 2006, nearly all public water systems had complete drinking water source assessments. New systems continue to be assessed as they come on-line.

The second phase is developing and implementing a local drinking water source protection plan. This effort is led by the public water system owner/operator, with assistance from groups such as local emergency responders, educators and watershed groups, as well as business owners and residents living in the protection area.

Examples of potential sources of contamination to drinking water clockwise from the upper left: pipe discharging contaminated water; tanker truck accident and spill; flooded farmland, resulting in fertilizer runoff; road salt; septic tank cleanout; dumping chemicals down a storm drain; drums of hazardous materials; pigs urinating in a stream; mining; and landfills.

Where did this program come from?

The federal Safe Drinking Water Act amendments of 1986 established the Wellhead Protection Program, which required states to administer a source water protection program for their ground water-based public water systems. In 1996, the Safe Drinking Water Act was amended again to provide states with funding to complete source water assessments for public water systems. At that time, the program was extended to include surface water systems and was renamed Source Water Assessment and Protection (SWAP). Ohio EPA's Division of Drinking and Ground Waters administers the program in Ohio following program approval by U.S. EPA in 1999.

What does a protection area do for my community or public water system?

Other environmental programs within Ohio EPA and other agencies have regulations authorizing them to restrict certain activities within a designated "protection area." For example, new landfills, and manure storage sites at large concentrated animal facilities may not be sited in drinking water source protection areas for ground water systems.

Most public water suppliers welcome these regulations because they help divert potentially high-risk facilities away from intakes and wellfields to less sensitive areas. Fact sheets are available at ***epa.ohio.gov/ddagw/swap.aspx*** (under the Publications tab) for the following restricted activities in source water protection areas: siting landfills, land-applying biosolids and wastewater, and storing manure at concentrated animal feeding facilities (CAFOs).

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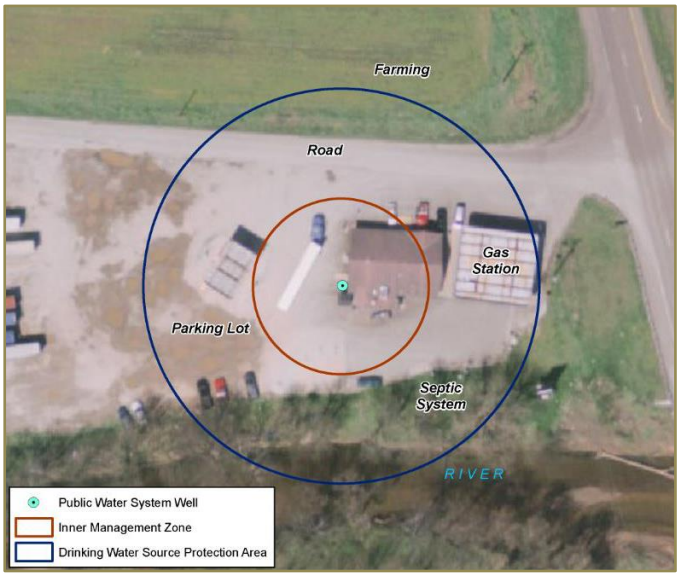
Who is the audience for a drinking water source assessment report?

The main audience for an assessment report is the public water system owner or operator who needs information that can help them protect drinking water at the source. The secondary audience is the individuals in watershed groups and other organizations who could partner with the public water system to help implement protective strategies. Finally, the reports are meant for the general public. Because of this, the reports are written in non-technical language.



Drinking water source protection area showing potential sources of contamination.

What is a susceptibility analysis?

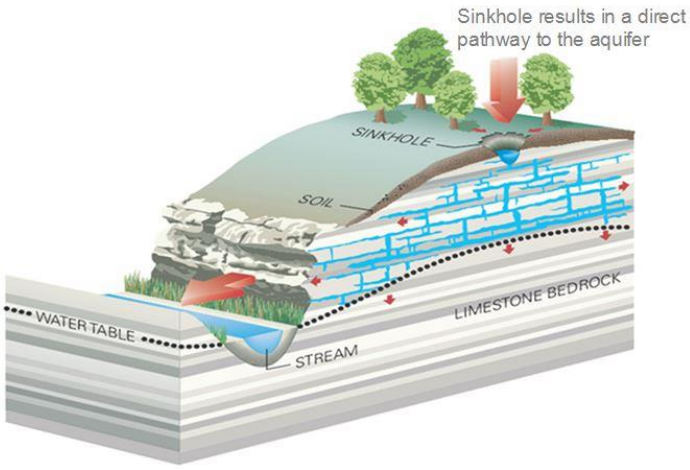
This is an evaluation of the likelihood that a drinking water source could become contaminated. In Ohio, all surface waters are considered to have a high susceptibility to contamination. Aquifers that supply ground water to a public water system are assigned a high, moderate or low susceptibility, based on the local geology, the numbers and types of potential contaminant sources and water quality.

Why perform a susceptibility analysis?

A susceptibility analysis is required by the 1996 amendments to the Safe Drinking Water Act. Its purpose is to prioritize systems for source water protection efforts. A public water system whose drinking water source is highly susceptible to contamination needs to commit a greater level of effort to protect it from contaminant sources. They also may have a higher priority for any funding that may be available for these efforts.

Is a susceptibility analysis the same as a vulnerability assessment?

No. Vulnerability assessments are evaluations of the likelihood that a public water system's infrastructure — the plant, water lines, etc. — could be compromised by sabotage. Public water suppliers are required by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 to complete a vulnerability assessment of their public water system.



Block diagram showing karst geology. These settings are typically susceptible to contamination because of little natural protection between the ground surface and the aquifer. Graphic used with permission from the Columbus Dispatch. Slightly modified.

What does it mean to have a high susceptibility?

In most cases, it means your source water has a relatively high likelihood of contamination, due to lack of natural protection and/or a high number of contaminant sources. It does not mean that the source water will become contaminated, and should not be interpreted as a cause for alarm. It should instead be cause for action to protect the source water to the fullest possible extent.

In those cases where ground water quality is known to be affected by human activities (for example, high nitrates or the presence of solvents), the source water has been rated highly susceptible even if the aquifer may not otherwise seem susceptible to contamination.

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Can the susceptibility rating for my water source ever change?

In Ohio, all surface waters are considered to have a high susceptibility to contamination, and this will not change. In some cases, a ground water source has been given a high susceptibility because of numerous significant potential contaminant sources. If the risk from these sources is minimized, the susceptibility could be lowered. Similarly, a ground water system's susceptibility may be raised (assuming it is not already high) if significant potential contaminant sources are subsequently sited in the protection area or if water quality impacts are detected. However, susceptibility analysis for ground water systems is based primarily on aquifer characteristics, which are relatively unchanging.

What is a drinking water source protection plan?

A drinking water source protection plan is locally designed and implemented to protect the source of drinking water from contamination at the source. The focus and scope of a protection plan is dependent on the size and type of water system.

For municipal ground water systems (serving a political jurisdiction) and investor-owned water companies:

- A typical plan addresses: (1) educating residents and decision-makers about protecting the source water; (2) including source water concerns in the system's contingency plan; and (3) strategies to reduce the risk posed by specific potential contaminant sources. Monitoring of the raw water may be an additional element. The protection plan may be implemented as a completely voluntary effort, or through a local ordinance that would give the jurisdiction the ability to enforce certain measures. Ohio EPA has developed a template for small community systems (serving 5,000 or less), to facilitate the completion of a written document. Once complete, the protection plan should be sent to the appropriate Ohio EPA district office for review and endorsement.
- A guidance document for completing a protection plan is available from Ohio EPA, electronically and in hard copy. A CD containing additional material designed to help public water system operators and administrators develop a protection plan is also available upon request.

For non-municipal ground water systems:

- When Ohio EPA staff complete a system's assessment report, they attach a checklist. The owner/operator is asked to check off strategies that they intend to implement or are already implementing, and return the checklist to Ohio EPA. This checklist then becomes the system's protection plan.

How can I see the assessment report for a water system?

These reports are public records and can be requested directly from Ohio EPA or by accessing the following password protected website: ***epa.ohio.gov/ddagw/swap.aspx***. You may also request a copy or permission to view reports directly from the public water system.

Are reports written for systems that purchase their water?

Ohio EPA completes assessment reports only for those systems that actually pump water from an aquifer or a surface water body. Any public water system that pumps its own water and then sells it to other public water systems should make copies of the assessment report available to the purchasing systems.

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How can I get involved in protecting my drinking water source?

As a homeowner, we encourage you to learn about things that can be done around your home to help protect your drinking water resources. These include:

- limiting the use of pesticides, fertilizers, and other lawn chemicals;
- not pouring chemicals down the drain;
- recycling used motor oil and antifreeze;
- cleaning up animal waste; and having septic systems inspected regularly.

For more suggestions about how you can help, go to ***water.epa.gov/infrastructure/drinkingwater/sourcewater/protection/whatyoucando.cfm***.

You may also consider contacting your public water supplier to find out if they have a drinking water source protection plan in place or being developed. If not, you can offer your assistance in organizing a protection team in your community. Much of the effort involved is organizational and anyone with energy and organizational skills can be a valuable resource. Ohio EPA staff members are also available to offer guidance and technical assistance.

Photo Courtesy of WSU Clark Co. Extension.

Source Water is a shared resource. Do your part to protect it.