

“ One important purpose of these assessments is to inform and motivate local water supply protection activities. Because of the wide diversity of potential contaminants and risks, Congress intended that communities have the flexibility to tailor their prevention actions to local circumstances. ”

ROBERT VARNEY, REGIONAL ADMINISTRATOR, U.S. EPA REGION I

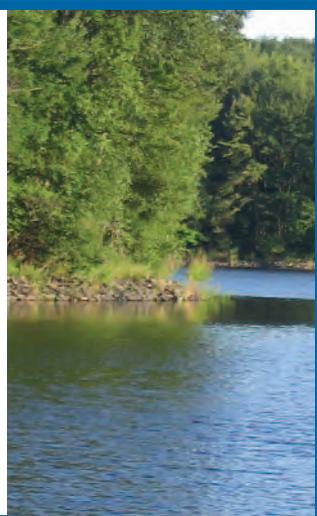
What Does Your Source Water Assessment Report Tell You?

SOURCE WATER ASSESSMENT REPORT

The state Source Water Assessment programs are tailored to each state's water resources and drinking water priorities. However, each Source Water Assessment report includes the following three key components:

- ~ A map showing the delineation, or outline, of public drinking water assessment areas
- ~ An inventory of known and potential sources of contamination in the delineated areas
- ~ An assessment of the susceptibility of water supplies to the identified potential contamination sources

With this information in hand, public water suppliers are expected to develop management measures to protect their water supply sources from man-made or catastrophic events.



Your Source Water Assessment Map

This map is an invaluable starting point for planning and implementing your source water protection program. For the most part, New England states generated their maps by turning to their Geographic Information System (GIS) databases, accessing various layers of available data to obtain source water area information and locations of potential and known contaminant sources. This information was then overlaid onto a base map.

You will typically find the following information on your Source Water Assessment map(s):

- base map information (e.g., roads and water bodies), an aerial photo, or U.S. Geological Survey (USGS) topographical map
- an outline of the source protection area (e.g., radiuses around groundwater wellhead protection areas, watershed outlines for surface water supplies)
- symbols indicating groundwater sources (e.g., wells, springs)
- symbols indicating surface water inlets

Source Water Assessment



A study and report, unique to each water system, that provides basic information about known and potential sources of pollutants to drinking water supplies and ranks the susceptibility of these waters to future contamination.

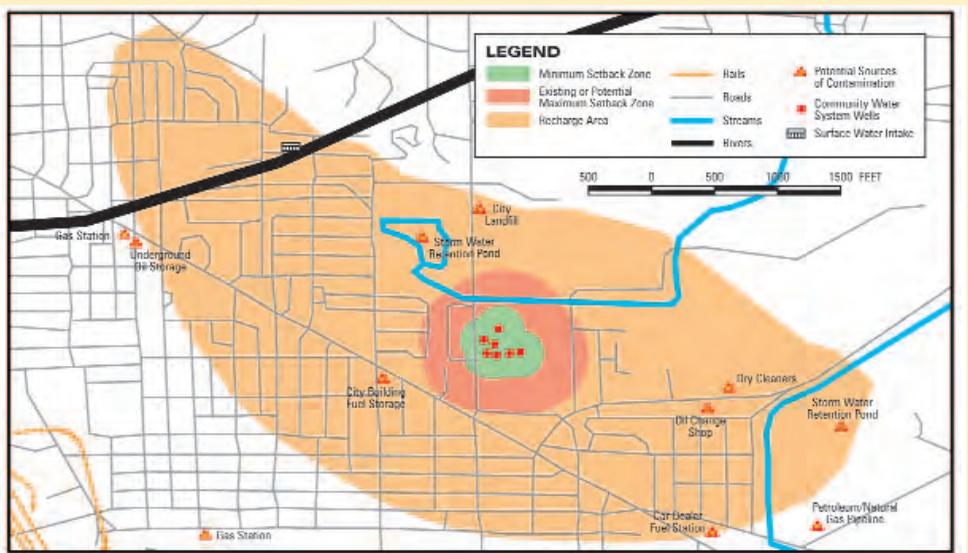


Geographic Information System (GIS)

A computerized mapping system consisting of a combination of computer hardware and software designed to assemble, store, manipulate, and display an array of geographically referenced information.

- symbols indicating potential sources of contamination (e.g., septic systems/leachfields, businesses, agriculture, forestry, USTs, ASTs) within the source protection area.
- symbols indicating known sources of contamination (e.g., UST releases) within the source protection area.
- uses within the source protection area

In preparing their Source Water Assessment reports, states often took steps to verify the information in their databases (e.g., meeting with public water system and municipal staff and/or conducting drive-by or walking surveys in the delineated areas) to complete the maps. However, municipalities should make it their business to work with their water supplier to review this information, ensure its accuracy, amend it where necessary, and keep it up to date. (See Chapter 3.)



Source: Consider the Source: A Pocket Guide to Protecting Your Drinking Water, U.S. EPA.

This sample map inventories known and potential sources of contamination.

NOTE: Due to security concerns many water suppliers, states, and communities do not post detailed maps showing the specific locations of dams, reservoirs, wells, and facilities on the Internet.

Your Inventory and Susceptibility Assessments

Each New England state has developed its own format for reporting the results of the Source Water Assessments.

The inventory is a list (according to potential risk) of all documented (i.e., known releases into the environment) and potential contaminant sources or activities of concern to drinking water supplies within the source water protection area. Keep in mind that this inventory is a snapshot representing a particular point in time.

The susceptibility ranking indicates the level of concern assigned to each potential risk by ranking, rating, or prioritizing, based on the relative threat of each land use compared to other potential source contaminants.

Rankings of particular contaminant sources can be based on a number of factors, including the type and quantity of chemical generated, characteristics of the contaminants (e.g., toxicity), the behavior and mobility of the pollutants in soil and groundwater, existing regulatory authority to control the threat, existing conditions, and effectiveness of mitigation measures. New England states typically assigned susceptibility rankings of high, medium/moderate, or low to each water source.

The following table illustrates the manner in which this information might be presented in a Source Water Assessment report.

Potential Source of Contamination vs. Actual Contamination
 The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).
 It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state, and/or local levels, to further reduce the risk.

Table 2: Land Uses in the Watershed

For more information, refer to Appendix B: Regulated Facilities.

Land Uses	Quantity	Threat	Potential Sources of Contamination ¹
Agricultural			
Fertilizer Storage or Use	Few	M	Leaks, spills, improper handling, or over-application of fertilizers
Pesticide Storage or Use	Few	H	Leaks, spills, improper handling, or over-application of pesticides
Commercial			
Body Shops	2	H	Improper management of vehicle paints, solvents, and primer products
Gas Stations	6	H	Spills, leaks, or improper handling or storage of automotive fluids and fuels
Service Stations, Auto Repair Shops	4	II	Spills, leaks, or improper handling of automotive fluids, and solvents
Bus and Truck Terminals	2	II	Spills, leaks, or improper handling of fuels and maintenance chemicals
Cemeteries	Few	M	Leaks, spills, improper handling, or over-application of pesticides; historic embalming fluids (such as arsenic)
Dry Cleaners	1	H	Spills, leaks, or improper handling of solvents and wastes
Furniture Stripping and Refinishing	1	II	Spills, leaks, or improper handling of hazardous chemicals
Golf Courses	3	M	Over-application or improper handling of fertilizers or pesticides
Printer and Blueprint Shops	1	M	Spills, leaks, or improper handling or storage of printing inks and chemicals
Railroad Tracks and Yards	2	II	Over-application or improper handling of herbicides, leaks or spills of transported chemicals and maintenance chemicals; fuel storage
Sand and Gravel Mining/Washing	Few	M	Spills or leaks from heavy equipment, fuel storage, clandestine dumping
Industrial			
Chemical Storage or Manufacture	Numerous	II	Spills, leaks, or improper handling or storage of chemicals or process waste
Hazardous Materials Storage	Numerous	II	Spills, leaks from improper handling or storage of hazardous waste
Industrial Parks	Few	H	Leaks, spills of chemicals from improper handling or storage

Source: Massachusetts Department of Environmental Protection *Source Water Assessment and Protection (SWAP) Report*

Snapshots for the Future

Many of these Source Water Assessments build on and complement other programs already underway. State agencies and the U.S. EPA have a long record of working together to protect public drinking water supplies. It is important that you, as a municipal official and a citizen of your community, become familiar with your Source Water Assessment report, understand what it tells you and what it may not tell you, and then make sure that your community is on the right track with source water protection.

To Obtain a Copy of Your SWAP Report...

Copies of Source Water Assessment reports for each water supply system have been provided to the water systems and to the communities in the source protection areas. Copies of the reports for water supply systems in your community can be obtained from the following sources:

WEB SITES

- **Connecticut:** http://www.dph.state.ct.us/BRS/water/source_protection/assessments/assessments.htm
- **Maine:** (207) 287-2070 or http://megisims.state.me.us/dwp_sdwis/default.jsp
- **Massachusetts:** (617) 556-1157 or <http://www.mass.gov/dep/brp/dws/swap.htm>
- **New Hampshire:** (603) 271-0657 or <http://www.des.state.nh.us/dwspp/reports.htm>
- **Rhode Island:** <http://www.healthri.org/environment/dwq/swap/home.htm>
- **Vermont:** (802) 241-3400

To Find Out More About GIS in Your State...

Contact the following sources:

WEB SITES

- **Connecticut:** <http://dep.state.ct.us/gis/index.htm>
- **Maine:** <http://apollo.ogis.state.me.us/>
- **Massachusetts:** <http://www.mass.gov/mgis/>
- **New Hampshire:** <http://www.des.state.nh.us/gis/onestop/register.asp>
- **Rhode Island:** <http://www.edc.uri.edu/rigis/>
- **Vermont:** <http://www.anr.state.vt.us/gismaps/index.htm>