



Massachusetts Department of Environmental Protection Source Water Assessment and Protection (SWAP) Report For Warren Water District

What is SWAP?

The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to:

- ? Inventory land uses within the recharge areas of all public water supply sources;
- ? Assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? Publicize the results to provide support for improved protection.

SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

Date DRAFT Prepared:
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Table 1: Public Water System (PWS) Information

PWS NAME	Warren Water District
PWS Address	250 Comins Pond Road
City/Town	Warren, Massachusetts
PWS ID Number	2311000
Local Contact	Mr. John O'Neill
Phone Number	(413) 436-9819

Well Name	Source ID#	Zone I (in feet)	Zone II #	Source Susceptibility
Comins Pond Wellfield	2311000-01G	250	519	Moderate

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. Description of the Water System

Warren Water District obtain its water supply from a tubular wellfield located on the eastern shore of Comins Pond, approximately 9,000 feet north of Massachusetts Turnpike (Route I-90), and approximately 1,500 feet west of Bemis Road. The wellfield consists of twenty one 2-1/2 – inch wells and five (5) 8-inch wells. The wellfield has a Zone I which is essentially a 250 foot buffer around the perimeter of the wellfield. The actual recharge area to the well may be significantly larger or smaller than the IWPA. The well is located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map to view the boundaries of the Zone I and Zone II. The Warren Water District is currently in the approval process for another drinking water source which will

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

be located south of the current wellfield. An assessment of the proposed groundwater source is not included in this report.

The well is treated with sodium hydroxide solution for corrosion control. The DEP requires public water suppliers to monitor the quality of the water. For current information on monitoring results and treatment and for a copy of the most recent Consumer Confidence Report, please contact the Public Water System contact person listed above in Table 1.

Drinking water monitoring reporting data is also available on the web via EPA's Envirofacts website at http://www.epa.gov/enviro/html/sdwis/sdwis_query.html.

2. Discussion of Land Uses in the Protection Areas

The majority of the land within the Zone II is forested with small areas of residential uses. Land uses and activities within the drinking water supply protection areas that are potential sources of contamination area as follows:

Key issues include:

1. **Inappropriate Activities in Zone I; and**
2. **Aquatic wild life.**

The overall ranking of susceptibility to contamination for the well is moderate, based on the presence of only moderate threat land use or activity in the Zone II, as seen in Table 2.

1. **Zone I** – Currently, the well does not meet DEP's restrictions, which only allow water supply related activities in Zone Is. The facility's Zone I contains a home which is on town sewer, and some parking areas used by beach goers. Portable bathrooms are used on the town beach, which belongs to the town. The public water supplier owns and controls all land encompassed by the Zone 1. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

Recommendations:

- ✓ Remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements.

Table 2: Table of Activities within the Water Supply Protection Areas

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Parking areas	Yes	Yes	Moderate	Provide drainage away from wells
Aquatic Wildlife	Yes	Yes	Low	Comins Pond
Structures (Served by public sewer)	Yes	Yes	Low	Non-water supply structures in Zone I

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

- ✓ Continue practicing the your no salt policy in the Zone 1.

2. **Aquatic wildlife** – Comins Pond lies in the protection area of the water supply. Ducks and other wildlife waste in and around the river are potential sources of contamination in the water supply.

Recommendation:

- ✓ Discourage wildlife by prohibiting the feeding of ducks and wildlife.

Implementing the following recommendations will reduce the system's susceptibility to contamination.

3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the well's susceptibility to contamination. Warren Water District should review and adopt the key recommendations above and the following:

Zone I:

- ✓ Keep non-water supply activities out of the Zone I.
- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ If the resident intends to continue utilizing the structures in the Zone I, use BMPs and restrict activities that could pose a threat to the water supply.
- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.

Facilities Management:

- ✓ Implement Best Management Practices (BMPs) for the use of fertilizer, herbicides and pesticides on facility property.

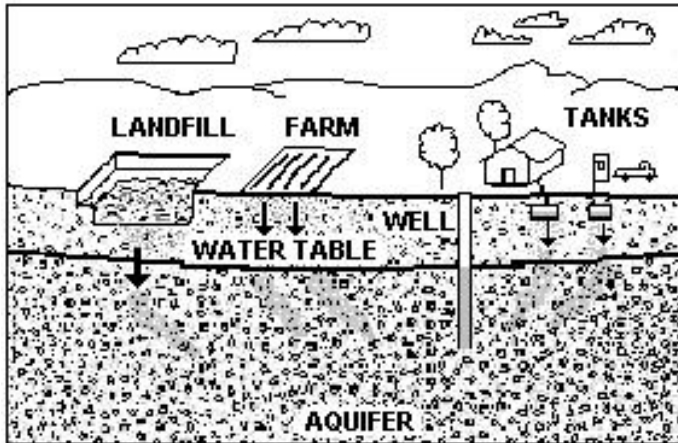


Figure 1: Example of how a well could become contaminated by different land uses and activities.

Planning:

- ✓ Work with local officials in Warren to include the facility Zone II in Aquifer Protection District Bylaws and to assist you in improving protection.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a land use inventory to assist in setting priorities, focusing inspections, and creating educational activities.

Funding:

The Department's Wellhead Protection Grant Program provides funds to assist public water suppliers in addressing Wellhead protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the "Wellhead Protection Grant Program". For additional information, please refer to the attached program fact sheet.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws/ including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Please note: each program year the Department posts a new Request for Response for the Grant program (RFR). Other funding opportunities are described in “Grant and Loan Programs: Opportunities for Watershed Protection, Planning and Implementation” at <http://www.state.ma.us/dep/brp/mf/files/glprgm.pdf>.

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

4. Attachments

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Wellhead Protection Grant Program Fact Sheet

For More Information:

Contact **Josephine Yemoh-Ndi** in DEP's **Worcester Office** at **(508) 792-7650 x 4030** for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:
www.state.ma.us/dep/brp/dws/

Copies of this assessment have been made available to the public water supplier and town boards.

