



Massachusetts Department of Environmental Protection Source Water Assessment and Protection (SWAP) Report For Woods Pond Condominiums

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

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Table 1: Public Water System (PWS) Information

PWS NAME	Woods Pond Condominiums
PWS Address	1 King's Way
City/Town	Middleborough
PWS ID Number	4182016
Local Contact	David Connolly/Robert Bouchard (Certified Operator)
Phone Number	(508) 923-0420/(508) 946-1394

Well Name	Source ID#	Zone I (in feet)	IWPA (in feet)	Source Susceptibility
Well #1	01G	160	478	High
Well #2	02G	160	478	High

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

The wells for the Woods Pond Condominiums are located in a forested area south of the cabins. The wells have Zone Is of 160 feet and an Interim Wellhead Protection Areas (IWPA) of 478 feet. The IWPA provides an interim protection area for a water supply well when the actual recharge area has not been delineated. The actual recharge area to the well may be significantly larger or smaller than the IWPA. The wells are 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 of the Zone Is and IWPA.

The wells serving the facility have no treatment at this time. The DEP requires public water suppliers to monitor the quality of the water. For current information on

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).

monitoring results and treatment, 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

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

Key issues include:

1. **activities in Zone Is;**
2. **cranberry bogs;**
3. **cesspools and septic systems; and**
4. **vehicle parking and roads.**

The overall ranking of susceptibility to contamination for the well is high, based on the presence of a threat with a high ranking within the IWPA.

1. **Zone Is** – Currently, the well does not meet DEP's Zone I regulations, which allow only water supply related activities in the Zone I and require that the land within the Zone I be owned or controlled by the public water system. Woods Pond Condominiums should be commended for owning the Zone Is for its wells, however, the Zone Is contain three cabins. According to the 2002 Annual statistics report for Woods Pond Condominiums one cesspool is located on the edge of the Zone Is, this is a violation of The State Environmental Code, Title 5 (310 CMR 15.303(1)(b)). 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 the cesspool from the Zone Is.
 - ✓ Do not use or store pesticides, fertilizers or road salt within the Zone Is.
2. **Cranberry Bogs** – A cranberry bog is within the IWPA. If improperly stored, applied, or disposed pesticides and fertilizers have the potential to contaminate drinking water sources.

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

Potential Contaminant Sources	Zone I	IWPA	Threat	Potential Concern
Cesspool in Zone I	Yes	Yes	High	Bacteria, improper disposal of hazardous materials
Cesspools and septic systems	(see above)	Yes	Moderate	Bacteria, improper disposal of hazardous materials
Cranberry Bogs	No	Yes	High	Pesticides and Fertilizers.
Vehicle Parking and Roads	Yes	Yes	Moderate	stormwater runoff, spills

* 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.

Recommendations:

- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a US Natural Resources Conservation Service farm plan to protect water supplies.
- ✓ Ensure that farmers within the IWPA maintain a pesticide license or certification with the Massachusetts Department of Food and Agriculture including all applicable training and recertification courses.
- ✓ Follow applicable Best Management Practices as published by the University of Massachusetts Cranberry experiment station.

3. **Cesspools and Septic Systems** – All the units are served by cesspools except for one, which has a septic system. Improperly managed cesspools and septic systems are a potential source of chemical and microbiological contamination to groundwater wells.

Recommendation:

- ✓ Educate residents on proper disposal methods for hazardous wastes; never pour them down the drain or on the ground.
- ✓ Septic system components should be inspected and maintained on a regular basis.

4. **Vehicle Parking and Roads** – Leaks, spills and road runoff is a potential threat of contamination to groundwater.

Recommendation:

- ✓ Ensure runoff is directed away from the wells.
- ✓ Continue to maintain contact with the Fire Department about spills.

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 wells' susceptibility to contamination. Woods Pond Condominiums should review and adopt the key recommendations above and the following:

Priority Recommendations:

Zone I:

- ✓ Remove cesspool in the Zone Is.
- ✓ Keep additional non-water supply activities out of the Zone Is.
- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ Post water supply protections signs in the Zone Is and IWPAs.
- ✓ Prohibit public access to the well and pumphouse by locking facilities.
- ✓ Conduct regular inspections of the Zone Is. Look for illegal dumping or evidence of vandalism.
- ✓ Use Best Management Practices (BMPs) and restrict activities that could pose a threat to the water supply.
- ✓ Keep road and parking lot drainage away from the well.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone Is.

Training and Education:

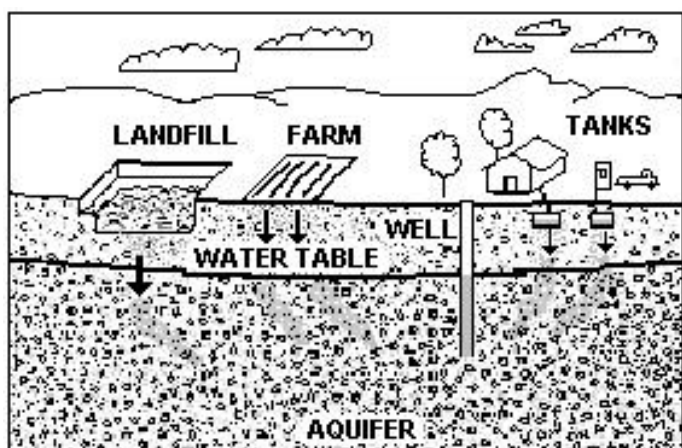


Figure 1: Example of how a well could become contaminated by different land uses and activities.

For More Information:

Contact Isabel Collins in DEP's Lakeville Office at (508) 946-2726 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/

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

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

- ✓ Educate residents on proper hazardous material use, disposal, emergency response, and best management practices.

Facilities Management:

- ✓ Cesspool and septic system components should be located, inspected, and maintained on a regular basis.

Planning:

- ✓ Work with local officials in town to include your IWPA in an Aquifer Protection District Bylaw and to assist you in improving protection.
- ✓ 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 that program. For additional information, please refer to DEP's web site. 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>.

Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

5. Attachments

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Fact Sheet
- Your Septic System Brochure
- Source Protection Sign Order Form