

Source Water Assessment Program (SWAP) Report For HUSSEY PLASTIC



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

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September 13, 2000

Table 1: Public Water System (PWS) Information

| | |
|----------------------|------------------|
| <i>PWS NAME</i> | HUSSEY PLASTIC |
| <i>PWS Address</i> | 26 CUMMINGS ROAD |
| <i>City/Town</i> | TYNGSBORO |
| <i>PWS ID Number</i> | 2301018 |
| <i>Local Contact</i> | STEVE WILSON |
| <i>Phone Number</i> | (978) 649-7345 |

| <i>Well Name</i> | <i>Source ID#</i> | <i>Zone I (in feet)</i> | <i>IWPA (in feet)</i> | <i>Source Susceptibility</i> |
|------------------|-------------------|-----------------------------|---------------------------|----------------------------------|
| Well #1 | 2301018-01G | 100 | 410 | High |

What is SWAP?

The Source Water Assessment Program (SWAP), 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.

Maintaining Your Good 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.

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, 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 contaminant, 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. Attached Map of the Protection Areas

1. Description of the Water System

The well for the facility is located on the north side of the on-site building. The Hussey Plastic well has a Zone I of 100 feet and an Interim Wellhead Protection Area (IWPA) of 410 feet. 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 of the Zone I and IWPA.

The well serving the facility has no treatment at this time. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1.

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).

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. **Inappropriate activities in Zone Is;**
2. **Plastics manufacturing;**
3. **Septic system;**
4. **Railroad tracks;**
5. **Aquatic wildlife.**

The overall ranking of susceptibility to contamination for the well is High, based on the presence of at least one high threat land use or activity in the IWPA.

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 the on-site building, parking areas, and railroad tracks. 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.
- ✓ Do not use fertilizers or road salt within the Zone I.

2. **Plastics manufacturer** – The facility is a plastics manufacturer, specifically injection moulding. Some of the chemicals used in their manufacturing processes are potential sources of contamination to the water supply, if improperly handled, or in case of leaks and spills.

Recommendation:

- ✓ Use BMPs to ensure the proper handling and storage of hazardous materials.

3. **Septic system** – The septic system is pumped annually. If a septic system fails or is not properly maintained it could be a potential source of microbial contamination. Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the water supply.

Recommendations:

- ✓ Staff should be instructed on the proper disposal of spent household chemicals. Include custodial staff, groundskeepers, and certified operator.

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

| Facility Type | Potential Contaminant Sources | Zone I | IWPA | Threat | Comments |
|-----------------------|-------------------------------|--------|------|----------|--|
| Plastics manufacturer | Parking areas | Yes | Yes | Moderate | Limit use of road salts. |
| | Plastic manufacturer | Yes | Yes | High | Hazardous chemical use |
| | Septic system | No | Yes | Moderate | See septic system brochure in the appendix |
| | Railroad tracks | Yes | Yes | High | Spills of hazardous chemicals; pesticide use for vegetation control. |
| | Aquatic wildlife | No | Yes | Low | Merrimack River |

* -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. 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.

✓ Septic system components should be located, inspected, and maintained on a regular basis. Refer to the appendices for more information regarding septic systems.

4. **Railroad tracks** – Railroad corridors serving passenger and/or freight trains are potential contaminant sources due to chemicals released during normal use, track maintenance, and accidents. Normal maintenance of railroad rights of way can introduce contaminants to a water supply through herbicide application for vegetation control. Accidents can release spills or engine fluids and commercially transported chemical.

Recommendation:

✓ Contact your local Board of Health to ensure that the IWPA is included in right of way pesticide management planning.

✓ Contact local fire department to ensure that the IWPA is included in Emergency Response Planning

5. **Aquatic wildlife** – The Merrimack River is located within the IWPA. 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

Hussey Plastics should review and adopt the following recommendations at the facility:

Zone I:

✓ Do not use pesticides or road salt within the Zone I.

✓ Remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements. Please note that water systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying their system.

✓ Consider well relocation if Zone I threats cannot be mitigated.

Training and Education:

✓ Instruct staff on proper hazardous material use, disposal, emergency response, and best management practices. Post drinking water protection area signs at key visibility locations.

Facilities Management:

✓ Implement standard operating procedures regarding proper storage, use and disposal of hazardous materials.

Planning:

✓ Work with local officials in Tyngsboro to include the facility IWPA 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.

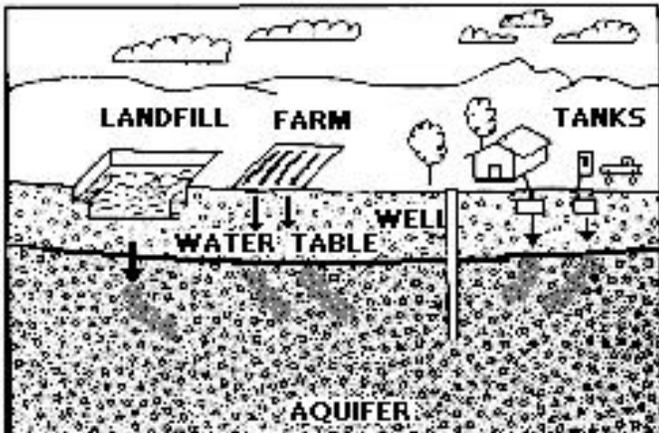


Figure 1: Example of how a well could become contaminated by different land uses and activities.

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 DEP's web site at:
www.state.ma.us/dep/brp/dws.

Copies of this assessment have been provided to the water department, town boards, and the local media.

- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspections, and creating educational activities.

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](#)
- [Your Septic System Brochure](#)
- [Source Protection Sign Order Form](#)
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