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

# Whately Water Department

### 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.

### Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

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

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

### Table 1: Public Water System Information

| | |
|---|---|
| ***PWS Name*** | Whately Water Department |
| ***PWS Address*** | Chestnut Plain Road, P.O. Box 23 |
| ***City/Town*** | Whately, Massachusetts |
| ***PWS ID Number*** | 1337010 |
| ***Local Contact*** | Mr. William Smith |
| ***Phone Number*** | (413) 665-3080 |

## 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 storm runoff, 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.

Refer to Table 3 for Recommendations to address potential sources of contamination. 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 the following sections:**

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection
4. Appendices

## Section 1: Description of the Water System

### Glossary

**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 (i.e. clay) that resists penetration by water.

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

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

**Zone II:** The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

***Groundwater Sources***

*Zone II #:* 203 *Susceptibility:* High

| ***Well Name*** | ***Source ID#*** |
|---|---|
| Well #1 (01G) | 1337010-01G |
| Well #2 (02G) | 1337010-02G |

Whately is a mid-sized agricultural and growing residential community in the Connecticut River valley in western Massachusetts. The Whately Water Department operates and maintains two wells. The two wells are located within approximately 40 feet of each other west of I-91 in the south-central portion of Town. Well 01G is a 6-inch diameter gravel developed well and serves as the back-up well for the Water Department; Well #2 (02G), the main source, is a 12-inch diameter, gravel developed well. Both wells are screened at depths of approximately 200 feet. The Water Department was formed in the mid-1980's and the wells developed after it was determined that numerous, shallow, private wells were contaminated with the pesticides ethylene dibromide (EDB) and aldicard (Temik). The wells are developed in a confined, sand and gravel aquifer, with a thick clay layer protecting the lower aquifer from potential contaminants from the fields. Recharge to the lower aquifer comes from more remote areas along the edge of the valley and areas to the north. Each well has a Zone I protective radius of 400 feet. The Conceptual Zone II for the wells was delineated as part of the New Source Approval process and based on approved withdrawal rates of 100 gpm for Well #1 and 150 gpm for Well #2. Because of the close proximity of the wells, the Zone II for the wells is the same and extends to the south into Hatfield and north to near the Whatley—Deerfield border.

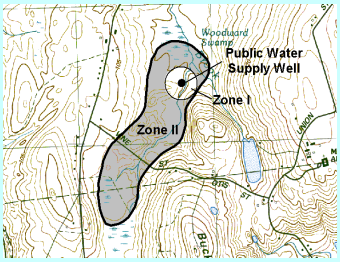
The wells are located in a deep, buried bedrock valley aquifer, filled with sand and gravel deposited during the recession (melting) of the glaciers some 12,000 to 18,000 years ago. At that time, Glacial Lake Hitchcock was formed in this area leaving a thick layer of lake clay in some areas overlying the deeper sand and gravel aquifer. The Whately wells are screened in a sand and gravel deposit that is overlain by the clay layer that is estimated to become thicker to the east and thinner to the west where the upland areas are. There is some evidence that the clay layer "pinches out" to the west where much of the aquifer recharge is likely to occur. Hydrogeological investigations indicated a channel of course sand and gravel trending north/ south that the wells are screened in.

The wells are located in an aquifer with a high vulnerability to contamination. Although there is a confining clay unit where the wells are located and in a portion of the Zone II, the confining unit is not contiguous throughout the area and therefore, due to the absence of hydrogeologic barriers (i.e. confining clay layer) that can prevent contaminant migration from the ground surface, the aquifer is considered vulnerable. Recharge primarily enters the aquifer along edges of the valley and in areas north of the wells. The confining unit provides some protection to the aquifer from the activities conducted on the land in the immediate area of the wells. Please refer to the attached map for the Zone II delineation outlines.

The water from the wells is treated to sequester manganese and chlorinated prior to distribution. Periodically, very low levels of volatile organic compounds are reported at concentrations well below drinking water standards. The Whately Water Department conducts an annual groundwater monitoring program that includes both water level and water quality monitoring. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report.

### 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 a Zone II protection area.




## Section 2: Land Uses in the Protection Areas

The Zone II watershed area is primarily forested, with smaller portions consisting of agriculture, residential, and commercial/industrial land uses (refer to the attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

**Key Land Uses and Protection Issues include:**

1. Agricultural activities
2. Residential Land Uses
3. Transportation Corridors
4. Hazardous Materials Storage and Use
5. Oil or Hazardous Material Contamination Sites
6. Comprehensive Wellhead Protection Planning

The overall ranking of susceptibility to contamination for the system is high, based on the presence of at least one high threat land use within the water supply protection areas, as seen in Table 2. The Whatley Water Department owns the Zone I of both wells. There are no activities within the Zone I that are not related to the water supply. The water is treated to sequester manganese and disinfected; the motor control and treatment building along with the formerly used backwash settling basin are located within the Zone I. In addition, a spring source for the neighboring farm is located on the Water Department property.

**Zone I Recommendations:**

- ✓ Use BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals.
- ✓ Continue annual groundwater monitoring program.

**1. Agricultural Activites –** There are numerous farms throughout the protection areas. In fact 30% of the Zone II area consists of farmland and a small, farm is located immediately adjacent to the well site. As Whately is well aware, pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, animal waste from barnyards, manure pits and field application are potential sources of contamination to ground and surface water. The clay layer in the immediate vicinity of the well site provides some protection from activities in the area. However, there is the potential for contaminants to enter the aquifer from more remote recharge areas.

**Agricultural Activities Recommendation:**

- ✓ Continue working 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. Offer information on acquiring assistance from Department of Food and Agriculture (DFA) and NRCS.
- ✓ Establish and maintain communication with DFA regarding the use of pesticides and the various crops throughout the Zone II.

**2. Residential Land Uses –** Approximately 8% of the Zone II consists of residential areas. All of the areas use septic systems. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems lead to the ground. If septic systems fail or are not properly maintained they can be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used

### For More Information

Contact Catherine Skiba in DEP's Springfield Office at (413) 755-2119 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier and town boards.

in homes are potential sources of contamination.

- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

**Residential Land Use Recommendations:**

✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.

**What are "BMPs?"**

Best Management Practices (BMPs) are measures that are used to protect and improve surface water and groundwater quality. BMPs can be structural, such as oil & grease trap catch basins, nonstructural, such as hazardous waste collection days or managerial, such as employee training on proper disposal procedures.

✓ Work with planners to manage new residential developments in the water supply protection areas.

**3. Transportation Corridors -** Interstate 91 runs along the eastern side of the Zone II protection area just outside for the Zone I for the wells. Local roads are present in the protection areas of the Zone IIs and watershed. Roadway construction, maintenance, and typical highway use can all be potential sources of contamination. Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include contaminants from automotive leaks, maintenance, washing, or accidents.

Railroad tracks also run along the eastern edge and through a small area of the Zone II. Rail corridors serving passenger or freight trains are potential sources of contamination due to chemicals released during normal use, track maintenance, and accidents. Accidents can release spills of train engine fluids and commercially transported chemicals.

**Transportation Corridor Recommendations:**

✓ Continue to regularly inspect the Zone II area for illegal dumping and spills.

✓ Work with local emergency response teams to ensure the Water Department is notified of spills and that any spills within the protection areas can be effectively contained.

✓ Work with the Town and State to have catch basins inspected, maintained, and cleaned on a regular schedule. Regular street sweeping reduces the amount of potential contaminants in runoff.

✓ If storm drainage maps are available, review the maps with emergency response teams. If maps aren't yet available, work with town officials to investigate mapping options such as the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping.

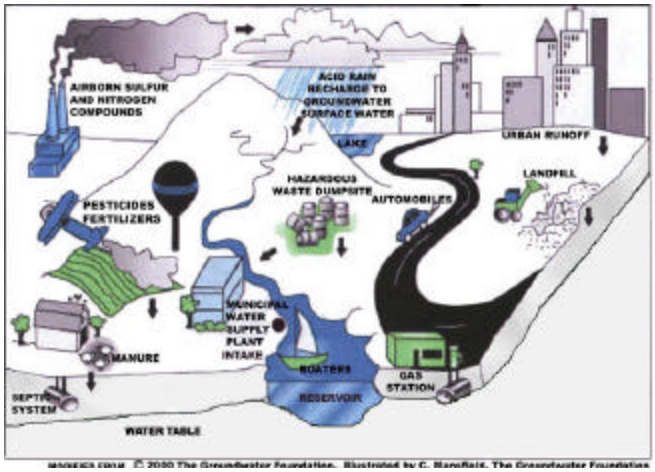



Figure 1: Sample watershed with examples of potential sources of contamination

✓ Promote BMPs for stormwater management and pollution controls. Contact MA Highway Department to ensure they are aware of the portions of Route 91 that run through the Zone II for purposes of stormwater and emergency management.

✓ Work with local officials during their review of the railroad right of way Yearly Operating Plans to ensure that water supplies are protected during vegetation control. Be sure that the railroad is aware of the areas within the Zone II.

**5. Hazardous Materials Storage and Use**—Less than 1% of the Zone II for Whately's wells is utilized as

*(Continued on page 6)*

**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 Use in the Watershed

For more information, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area

| Land Uses | Quantity | Threat | Potential Contaminant Sources* |
|---|---|---|---|
| **Agricultural** | | | |
| Forestry Operation | 1 | M | Equipment and maintenance materials: leaks, spills, or improper handling; road building |
| Nurseries | 2 | M | Fertilizers, pesticides, and other chemicals: leaks, spills, improper handling, or over-application |
| Dairy Farms | 2 | M | Management of manure (microbial contaminants) |
| Fertilizer / Pesticide Storage or Use | 7 | H | Fertilizers, pesticides, and other chemicals: leaks, spills, improper handling, or over-application |
| **Commercial** | | | |
| Railroad Tracks | 1 | H | Handling/ use of pesticides/herbicides, leaks or spills of transported chemicals and maintenance chemicals; fuel storage |
| Former Gas Station/ Body Shop | 1 | H | Petroleum products |
| Sand and Gravel Mining/ Washing | 2 | M | Heavy equipment, fuel storage, clandestine dumping: spills or leaks. |
| **Residential** | | | |
| Fuel Oil Storage (at residences) | Numerous | M | Fuel oil: spills, leaks, or improper handling |
| Lawn Care / Gardening | Numerous | M | Pesticides: over-application or improper storage and disposal |
| Septic Systems / Cesspools | Numerous | M | Hazardous chemicals: microbial contaminants, and improper disposal |
| **Miscellaneous** | | | |
| Oil or Hazardous Material Sites | 1 | -- | Tier Classified Oil or Hazardous Materials Sites are not ranked due to their site-specific character. Individual sites are identified in Appendix B. |
| Transmission Line Rights-of-Way<br>Type: electric line | 1 | L | Construction and corridor maintenance, over-application or improper handling of herbicides |
| Transportation Corridors | Numerous | M | Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides |

**Notes:**
1. When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.
2. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.
3. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.

*** THREAT RANKING** - Where there are two rankings, the first is for surface water, the second for groundwater sources. The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.

commercial or industrial land. Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in UST/AST. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. Hazardous materials should never be disposed of to a septic system or floor drain leading directly to the ground.

**Hazardous Materials Storage and Use Recommendations:**

- ✓ Educate local businesses on best management practices for protecting water supplies. Distribute the fact sheet "Businesses Protect Drinking Water" available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMP's for common business issues.
- ✓ Work with local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Educate local businesses on Massachusetts floordrain requirements. See brochure "Industrial Floor Drains" for more information.

**7. Presence of Oil or Hazardous Material Contamination Sites –** The Zone II contains a DEP Tier Classified Oil and/or Hazardous Material Release Site indicated on the map as Release Tracking Number 1-000488. Refer to the attached map and Appendix 3 for more information.

**Oil or Hazardous Material Contamination Sites Recommendation:**

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites. Contact the DEP Bureau of Waste Site Cleanup (BWSC) for additional information about the site at (413) 784-1100 or visit the DEP web site http://www.state.ma.us/dep/bwsc/sites/report.htm.

**8. Protection Planning –** Protection planning protects drinking water by managing the land area that supplies water to a well or reservoir. Currently, the Town does not have water supply protection controls that meet DEP's Wellhead Protection regulations 310 CMR 22.21(2). Wellhead Protection Plans coordinate community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. Wellhead Protection Plans coordinate community efforts, identify protection strategies, establish a timeframes for implementation, provide a forum for public education and outreach, and can help to pass bylaws or regulations for landuse controls. The development of a successful Plan is outlined in five steps in DEP's "Developing a Local Wellhead Protection Plan" (see Appendix A for the full report) as:

- Establish a protection committee or team
- Define the Water Source Protection Areas
- Identify potential sources of contamination
- Protect and manage the source protection areas
- Conduct ongoing public education and outreach

Franklin County Regional Council of Governments has been retained by the Town through a Wellhead Protection

Grant awarded by the DEP to complete a wellhead protection plan. The committee, along with FRCOG should compile the information supplied in the Zone II reports, this and other reports; include copies of maps outlining the protection areas (Zone I and Zone II) and detail the protection measures in place. Outline a plan with a time line for completion of the various plan components. Submit your written report to the DEP Regional office and/or Boston office for approval.

**Protection Planning Recommendations:**

- ✓ Develop a Wellhead Protection Plan. Work with the protection team, and refer them to http://mass.gov/dep/brp/dws/protect.htm for a copy of DEP's guidance, "Developing a Local Wellhead Protection Plan".
- ✓ Coordinate efforts with local officials in Whately to compare local wellhead protection controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). If they do not meet the current regulations, adopt controls that meet 310 CMR 22.21(2). For more information on DEP land use controls see http://mass.gov /dep/brp/dws/protect.htm.
- ✓ If local Board of Health controls do not regulate floordrains, be sure to include floordrain controls that meet 310 CMR 22.21(2).
- ✓ Include provisions for controlling public access to the Zone Is and watershed in any future planning.
- ✓ Part of the strategy for protection of the public water supply should include Right of First Refusal, purchase of land or conservation restrictions.

**Top 5 Reasons to Develop a Local Wellhead and Surface Water Protection Plan**

❶ Reduces Risk to Human Health

❷ Cost Effective! Reduces or Eliminates Costs Associated With:

- Increased monitoring and treatment
- Water supply clean up and remediation
- Replacing a water supply
- Purchasing water

❸ Supports municipal bylaws, making them less likely to be challenged

❹ Ensures clean drinking water supplies for future generations

❺ Enhances real estate values – clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

Other land uses and activities within the Zone IIs and watershed that are potential sources of contamination are included in Table 2. Refer to Appendix B for more information about these land uses. In addition, there are numerous commercial facilities along State Road that are immediately adjacent to the Zone II and are within the Zone III or secondary recharge area. Although the potential risk from these facilities is somewhat diminished, an inventory of these land uses provides additional information to local emergency responders and the use of BMPs at all facilities protects the environment and minimizes additional threat to the aquifer.

Identifying potential sources of contamination is an important initial step in protecting your drinking water sources.

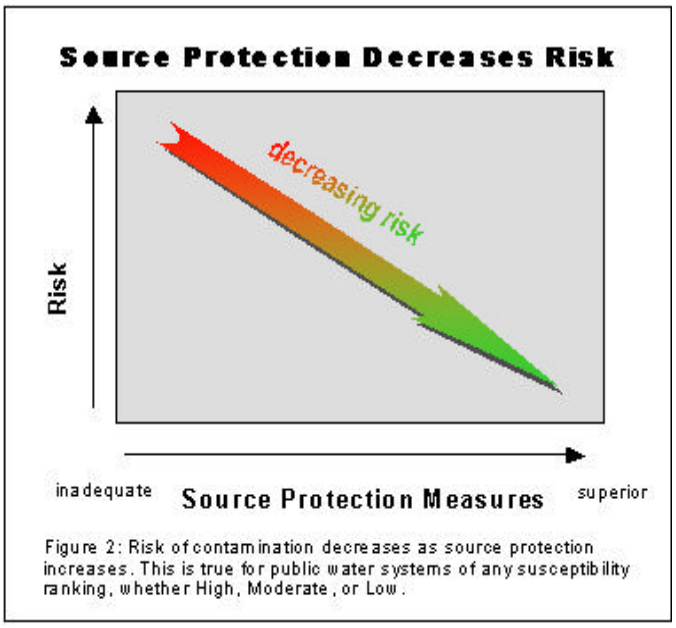



Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

## Section 3: Source Water Protection Conclusions and Recommendations

**Current Land Uses and Source Protection:**

As with many water supply protection areas, the system Zone II and watersheds contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- Daily inspections of Zone I and II watershed lands.

- Purchase of additional watershed land.
- The preparation of a Wellhead Protection Plan for the watershed.

**Source Protection Recommendations:**
To better protect the sources for the future:

- ✓ Continue to inspect the Zone Is regularly.
- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the stormwater drainage in your protection areas and to cooperate on responding to spills or accidents.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Develop and implement a Wellhead Protection Plan.

**Conclusions:**
These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

**Partner with Local Businesses:**
Since many small businesses and industries use hazardous materials and produce hazardous waste products, it is essential to educate the business community about drinking water protection. Encouraging partnerships between businesses, water suppliers, and communities will enhance successful public drinking water protection practices.

**Educate Residents:**
If managed improperly, household hazardous waste, septic systems, lawn care, and pet waste can all contribute to groundwater contamination. Hazardous materials include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. If a septic system fails or is not properly maintained, it could be a potential source of microbial contamination. Animal waste is also a source of microbial contamination.

**Provide Outreach to the Community:**
Public education and community outreach ensure the long-term protection of drinking water supplies. Awareness often generates community cooperation and support. Residents and business owners are more likely to change their behavior if they know where the wellhead protection recharge area is located; what types of land uses and activities pose threats; and how their efforts can enhance protection.

**Plan for the Future:**
One and of the most effective means of protecting water supplies is local planning, include adoption of local controls to protect land use, regulations related to watersheds and ground water protection. These controls may include health ordinances/regulations, discharge prohibitions, general ordinances, and zoning by laws that prohibit or control potential sources of contamination within wellhead protection areas.

*(Continued on page 9)*

### What is a Zone III?

A Zone III (the secondary recharge area) is the land beyond the Zone II from which surface and ground water drain to the Zone II and is often coincident with the watershed boundary.

The Zone III is defined as a secondary recharge area for one or both of the following reasons:

1. The low permeability of underground water bearing materials in this area significantly reduces the rate of groundwater and potential contaminant flow to the Zone II.

2. The groundwater in this area probably discharges to surface water feature such as a river rather than discharging directly into the aquifer.

The land uses within the Zone III are assessed only for sources that are shown to be groundwater under the direct influence of surface water.

### 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

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

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community.

The Department's Wellhead Protection Grant Program and Source Protection Grant Program provide funds to assist public water suppliers in addressing water supply source protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program. Please note: each spring DEP posts a new Request for Response for the grant program (RFR).

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: http://mass.gov/dep/brp/mf/mfpubs.htm.

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

## Section 4: Appendices

A. Protection Recommendations
B. Regulated Facilities within the Water Supply Protection Area
C. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
D. Additional Documents on Source Protection

## Table 3: Current Protection and Recommendations

| Protection Measures | Status | Recommendations |
|---|---|---|
| **Zone I** | | |
| Does the Public Water Supplier (PWS) own or control the entire Zone I? | **YES** | Continue to inspect and protect open space in the Zone 1. Where land is not available for purchase, consider the use of conservation restrictions. |
| Are the Zone I and II posted with "Public Drinking Water Supply" Signs? | **YES** | Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988. |
| Is the Zone I regularly inspected? | **YES** | Continue daily inspections of drinking water protection areas. |
| Are water supply-related activities the only activities within the Zone I? | **YES** | Monitor activities in Zone I. |
| **Municipal Controls** (Zoning Bylaws, Health Regulations, and General Bylaws) | | |
| Does the municipality have Wellhead Protection Controls that meet 310 CMR 22.21(2) ? | **NO** | Work with the Planning Board and the Board of Health to compare land use controls to see that they meet current requirements of 310 CMR 22.21(2). Refer to mass.gov/dep/brp/dws/ for model bylaws and health regulations, and current regulations. Whately does have hazardous Materials Handling by laws |
| Do neighboring communities protect the water supply protection areas extending into their communities? | **NO** | Hatfield does have protective by laws. However, the protection area must be revised to include the newly delineated Zone II for the Omasta well. |
| **Planning** | | |
| Does the PWS have a local wellhead protection plan? | **In process** | Develop a wellhead protection plan. Follow "Developing a Local Wellhead Protection Plan" available at: www.state.ma.us/dep/brp/dws/. |
| Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies? | **YES** | Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams. |
| Does the municipality have a watershed and wellhead protection committee? | **YES** | Encourage past committee to reconvene, and also include representatives from citizens' groups, neighboring communities, and the business community. |
| Does the Board of Health conduct inspections of commercial and industrial activities? | **NO** | There are no commercial or industrial activities in the watershed, but there are some that should be inspected within the Zone IIs. For more guidance see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/hazmat.doc |
| Does the PWS provide watershed protection education? | **NO** | Currently outreach is mainly to school groups. Increase residential outreach through bill stuffers, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial, industrial and municipal uses within the Zone IIs. |

# APPENDIX B:
# REGULATED FACILITIES NEAR THE WATER SUPPLY PROTECTION AREA

**Note**: All of these facilities are outside of the Zone IIs for the system wells. However, they are within the Zone III, very near the border of the Zone II, and so runoff from a spill or leak at these facilities could drain to the Zone II.

## DEP Permitted Facilities

| DEP Facility Number | Facility Name | Street Address | Town | Permitted Activity | Activity Class |
|---|---|---|---|---|---|
| 131813 * | West Track, Inc. * | 164 West St Rte 5 | Hatfield | Generator of Hazardous Waste | Very Small Quantity Generator |
| * | C.N. Wood Co. Inc. * | 69 State Road | Whately | Generator of Hazardous Waste | Very Small Quantity Generator |
| 205621* | Federal Express Corp. * | 173 West St Route 5 & 10 | Hatfield | Generator of Hazardous Waste | Very Small Quantity Generator |
| 328650 * | Hatfield Equipment Co. * | Mountain Rd | Hatfield | Generator of Hazardous Waste | Very Small Quantity Generator |
| * | Orchard Trailers * | 78 State Road | Whately | Generator of Hazardous Waste | Very Small Quantity Generator |

Note: This appendix includes only those facilities that meet state reporting requirements and report to the appropriate agencies. Additional facilities may be located within the water supply protection area(s) that should be considered in local drinking water source protection planning.

* These facilities are located just outside of the Zone II area.

**APPENDIX C – Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas**

DEP's data layer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP's Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP's Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state's OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at http://www.state.ma.us/dep/bwsc. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at http://www.state.ma.us/dep/bwsc/sitelist.htm, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

**Table 1**: Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

| RTN | Release Site Address | Town | Contaminant Type |
|---|---|---|---|
| 1-0000488 | 361 West St | HATFIELD | Oil and Hazardous Material |
| 1-0010136* | Depot Road | HATFIELD | Oil and Hazardous Material |

For more location information, please see the attached map, which has the release sites located by RTN and refer to http://www.state.ma.us/dep/bwsc/sitelist.htm for additional site information.

* Site is just outside of the Zone II area.