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

Hatfield 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	Hatfield Water Department
PWS Address	59 Main Street
City/Town	Hatfield, Massachusetts 01038
PWS ID Number	1127000
Local Contact	Frank Motyka
Phone Number	(413) 247-5222

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.

Zone A: is the most critical for protection efforts. It is the area 400 feet from the edge of the reservoir and 200 feet from the edge of the tributaries (rivers and/or streams) draining into it.

Zone B: is the area one-half mile from the edge of the reservoir but does not go beyond the outer edge of the watershed.

Zone C: is the remaining area in the watershed not designated as Zones A or B.

The attached map shows Zone A and your watershed boundary.

Groundwater Sources

Zone II #: 463 *Susceptibility:* High

Well Name	***Source ID#***
West Hatfield Well (01G)	1127000-01G

Zone II # 275 *Susceptibility:* High

Well Name	***Source ID#***
Omasta Well (02G)	1127000-02G

Surface Water Sources

Source Name	*Susceptibility: Moderate*
Running Gutter Brook Reservoir	1127000-01S

Hatfield Water Department operates and maintains two wells and one reservoir. The two wells for the Hatfield Water Department are located west of I-91; 01G is in the south section of town near the border with Northampton and 02G is in the north section near the border with Whately. Wells 01G and 02G are both 12-inch diameter, gravel developed wells screened at 124 and 166 feet in depth, respectively. Each well has a Zone I radius of 400 feet. The Conceptual Zone II for each well was delineated as part of the SWAP program and based on an historical pumping rate of 250 gpm for Well 01G and an approved pumping rate of 275 for well 02G. The Zone II area for well 01G is within Hatfield and Northampton; the Zone II area for Well 02G is within northern Hatfield and Whately. The wells are located in a deep buried 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 Hatfield 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. There is some evidence that the clay layer "pinches out" to the west where much of the aquifer recharge is likely to occur.

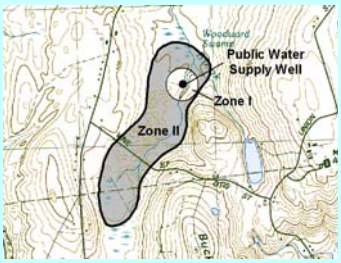
The wells are located in aquifers with a high vulnerability to contamination. Although there is a confining clay unit in a portion of the Zone II, the confining unit is not contiguous throughout the area and therefore, due to the absence of hydrogeologic barriers (i.e. confining clay layer) that can prevent contaminant migration from the ground surface, the aquifer is considered vulnerable. Please refer to the attached map for the Zone II delineation outlines.

The Running Gutter Brook Reservoir for the Hatfield Water Department is located in the northwest corner of Hatfield, near the borders with Whately and Williamsburg. A portion of the water supply protection areas for the reservoir extends in to the town of Whately. Please refer to the attached map of the watershed.

The water from the reservoir is filtered and disinfected. 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. Drinking water monitoring reporting data is also available on the web at http://www.epa.gov/safewater/ccr1.html

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 IIs and watershed for Hatfield are 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. Activities in Zone I
2. Activities in Zone A
3. Residential Land Uses
4. Transportation Corridors
5. Hazardous Materials Storage and Use
6. Agricultural activities
7. Oil or Hazardous Material Contamination Sites
8. 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.

1. Activities in Zone I – The Zone I for each of the wells is a 400 foot radius around the wellhead. Massachusetts drinking water regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the Zone I through a conservation restriction. However, many public water supplies were developed prior to the Department's regulations and contain non-water supply activities such as homes and public roads. The following non-water supply activities occur in the Zone Is of the system wells:
Well 01G - There are dirt bike trails and 1 residential property within the Zone I.
Well 02G - There are 2 residential properties within the Zone I, and Interstate 91 passes through the Zone I.

Zone I Recommendations:

- ✓ To the extent possible, remove all non water supply activities from the Zone Is to comply with DEP's Zone I requirements.
- ✓ Use BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.
- ✓ Keep any new non-water supply activities out of the Zone I.

2. Activities in Zone A - Land use activities within a Zone A may have an impact on surface water sources. Wild animals and domestic pets can be carriers of waterborne diseases such as Giardia, Cryptosporidium, Salmonella, etc. Human activities also can pose significant threats. The following activities occur in the Zone As of the system's reservoirs:
Running Gutter Brook Reservoir (01S) - There is a local road within the Zone A of the reservoir and a road that crosses one of the tributaries. Some of the trails and roads throughout the watershed are utilized for recreation. Little impact has been noted from these activities by the watersupplier.

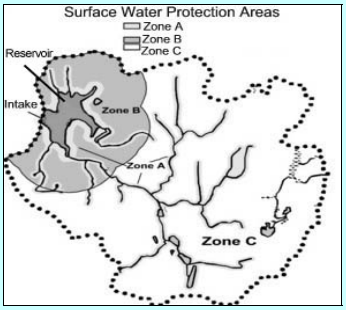
Zone A Recommendations:

- ✓ Closely monitor all activities within the Zone As.
- ✓ Keep any new prohibited activities out of the Zone A.

3. Residential Land Uses – Approximately 21% of the Zone II for 01G, 9% of the Zone II for Well 02G, and less than 1% of the Running Gutter Brook

What is a Watershed?

A watershed is the land area that catches and drains rainwater down-slope into a river, lake or reservoir. As water travels down from the watershed area it may carry contaminants from the watershed to the drinking water supply source. For protection purposes, watersheds are divided into protection Zones A, B and C.



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.

watershed consist 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 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.

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.

- **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.

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

4. Transportation Corridors - Interstate 91 runs through the protection areas for Well 02G. 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 run through the edge of the Zone II for Well 02G. 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.

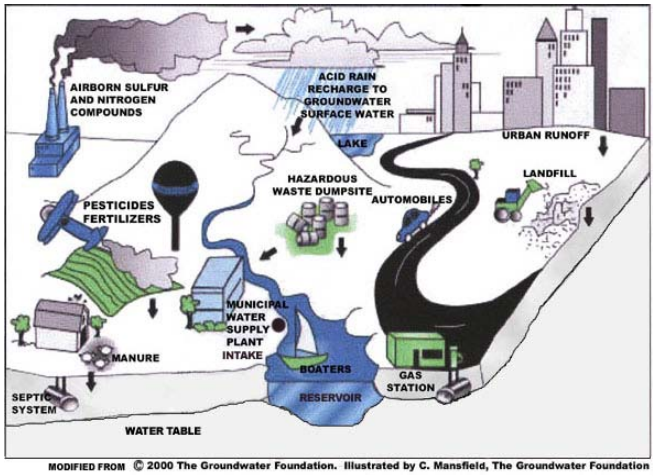


Figure 1: Sample watershed with examples of potential sources of contamination

Transportation Corridor Recommendations:

✓ Continue to regularly inspect watershed and Zone IIs for illegal dumping and spills.

✓ Work with local emergency response teams to ensure 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.

(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	Well Source ID	Watershed Source ID	Potential Contaminant Sources*
Agricultural					
Forestry Operation	1	M	-	01S	Herbicides or pesticides, equipment maintenance materials: leaks, spills, or improper handling; road building
Nurseries	2	M	02G	-	Fertilizers, pesticides, and other chemicals: leaks, spills, improper handling, or over-application
Commercial					
Auto Repair Shops	5	H	02G	-	Spills, leaks, or improper handling of automotive fluids, and solvents
Cemeteries	1	M	02G	-	Over-application of pesticides: leaks, spills, improper handling; historic embalming fluids
Repair Shops (Engine, Appliances, Etc.)	1	H	01G	-	Engine fluids, lubricants, and solvents: spills, leaks, or improper handling or storage, Uncontrolled underground injection of hazardous materials.
Railroad Tracks and Yards	1	H	02G	-	Over-application or improper handling of herbicides, leaks or spills of transported chemicals and maintenance chemicals; fuel storage
Sand And Gravel Mining/Washing	2	M	01G, 02G	-	Heavy equipment, fuel storage, clandestine dumping: spills or leaks. Pit in Zone II for 01G not active.
Residential					
Fuel Oil Storage (at residences)	Numerous	M	01G, 02G	-	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Numerous	M	01G, 02G	-	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Numerous	M	01G, 02G	-	Hazardous chemicals: microbial contaminants, and improper disposal

Land Uses	Quantity	Threat**	Potential Contaminant Sources*
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 Type: gas 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
Underground Storage Tanks	2	H	Spills, leaks, or improper handling or storage of hazardous materials and waste
Utility Station Transformers	1	L	Chemicals and other materials including PCBs: spills, leaks, or improper handling

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.

- ✓ Promote BMPs for stormwater management and pollution controls.
- ✓ 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.

5. Hazardous Materials Storage and Use – Less than 5 % of the Zone IIs for Hatfield's wells is commercial or industrial land uses. 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.

6. Agricultural Activites – There are farms throughout the protection areas. 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.

Agricultural Activities Recommendation:

✓ 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.

7. Presence of Oil or Hazardous Material Contamination Sites – The Zone II for Well 02G contains a DEP Tier Classified Oil and/or Hazardous Material Release Site indicated on the map as Release Tracking Number 1-00048. 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.

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) or Surface Water Protection regulations 310 CMR 22.20 (b) and (c). Wellhead Protection and Surface Water Supply Protection Plans coordinate community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. Although Hatfield does have a Surface Water Supply Protection Plan. Plans must be updated to reflect changes within the system and activities within the watershed. There are resources available to help communities develop and modify plans for protecting drinking water supply sources.

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.

The Hatfield Water has sold Conservation Restrictions (CR) to the MA DEM to allow public access to the watershed. Although the CR limits allowable activities, it does not specify control measures within the watershed.

Wellhead Protection and Watershed Protection Plans coordinate community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public education and outreach, and can help to pass a bylaw for control regulations. The development of successful Plans are outlined in five steps in DEP's "Developing a Local Wellhead Protection Plan" and in "Developing a Local Watershed 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

An access control and monitoring plan should be an integral part of a watershed protection plan. The assessment of potential impacts of public access to the watershed are critical in protecting the water supply and for long and short term planning for the Water Department.

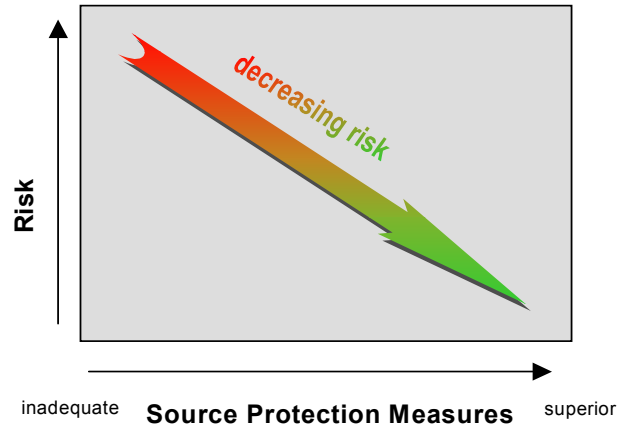


Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

Please use the guidance booklets included in the appendix to help create your plan. Compile the information supplied in the Zone II reports, this and other reports; include copies of maps outlining the protection areas (Zone I, Zone II, Zone A, Zone B, and Zone C) 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:

- ✓ Create and formalize an access management plan for the watershed and update your Watershed Protection Plan.
- ✓ Develop a Wellhead Protection Plan. Establish a 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 Hatfield, Whately, and Northampton 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 controls do not regulate floor drains, be sure to include floor drain controls that meet 310 CMR 22.21(2).
- ✓ Include provisions for controlling public access to the Zone Is and watershed in any future planning.
- ✓ Because so much of the water supply protection areas are forested, review current strategies for best management of forested lands.
- ✓ If there are no local surface water supply protection controls or they do not meet the current regulations, adopt controls that meet 310 CMR 22.20 (b) and (c). For more information on DEP land use controls see http://mass.gov/ dep/brp/dws/protect.htm.

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. Identifying potential sources of contamination is an important initial step in protecting your drinking water sources. 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 II and watershed lands.
- Purchase of additional watershed land.
- The preparation of a Watershed Protection Plan for the watershed.

(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

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

- ✓ Prepare and implement an Access management plan for land under conservation restrictions that allow public access. Lack of control and monitoring of public access may result in negative impacts to the water supply and infrastructure.
- ✓ Continue to inspect the Zone Is and As regularly, and when feasible, remove any non-water supply activities.
- ✓ 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.

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?	**N/A**	
Planning		
Does the PWS have a local wellhead protection plan?	**In the 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
35129	Town of Hatfield Highway Department	10 Straits Rd	Hatfield	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
	Truck & Auto Repair (not currently registered)	Coles Meadow Road	Hatfield/ Northampton	Generator of Hazardous Waste	To be determined

Note: This appendix includes only those facilities within the water supply protection area(s) 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.

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

DEP's datalayer 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

* Site is just outside of the Zone II area.
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.