

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

Source Water Assessment & Protection Program Reports **SWAP Reports - Northeast Region**

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-292-5751. TDD# 1-866-539-7622 or 1-617-574-6868
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Source Water Assessment & Protection Program Reports

What is a SWAP Report?

Protecting sources of drinking water is essential for maintaining and improving the quality of human health and the environment. Source water assessments characterize the susceptibility of a drinking water source to contamination by summarizing information about the activities and land uses within recharge areas. Potential sources of contamination are identified for each individual city or town in each water supply protection area to use as support for planning decisions. Information gathered during the assessment process was incorporated into recommendations for actions that can be taken at the local level to protect drinking water sources.

The Source Water Assessment and Protection (SWAP) Program was established in 1996 by the USEPA as part of the Safe Drinking Water Act Amendments. SWAP emphasized the importance of source water protection as a pollution prevention tool that can be used as part of a comprehensive multi-barrier approach to source water protection. States were required to:

1. delineate recharge areas for all public drinking water sources;
2. inventory land uses within these recharge areas;
3. assess the susceptibility of sources to contamination; and
4. publicize the results.

The assessments help to focus protection efforts to minimize risks of individuals drinking contaminated water. These efforts may include developing source water protection plans, encouraging the use of Best Management Practices (BMP), establishing local protection teams and using other source protection measures.

What will the assessment tell me?

The assessment will tell you:

1. Whether your drinking water is from a surface or a groundwater source,
2. The locations of the wells or the intakes,
3. The water supply protection area,
4. Potential Sources of Contamination (PSC) within the protection areas,
5. What recommended steps you should take to maintain or improve protection.

Is there a SWAP available for my drinking water system?

The Massachusetts Department of Environmental Protection (MassDEP) has completed SWAP reports for all public water systems in the state. Please check the website for your assessment! As a reminder, assessments are not conducted for systems that serve fewer than 25 people or have fewer than 15 service connections.

Where can I get more information?

Copies of the assessment for each city or town are sent to the water supplier, Board of Health and to the chief elected official. These groups can be contacted to get more information or you can contact the source water protection program in your regional office or at the Boston headquarters. Please follow the instructions below to access your SWAP report on-line.

Additional Targeted Source Water Protection Case Examples: Navajo Nation, Arkansas, Utah.

Additional Measurement and Characterization Case Examples

Arizona

GUDI mapping and investigation project along Oak Creek:

GUDI stands for Groundwater Under the Direct Influence of surface water. Groundwater sources may be *suspect* GUDI if the well is less than 500 feet from surface water. To investigate well distances to surface water, detailed maps were created for twenty-nine (29) public water systems along Oak Creek showing a 500 foot buffer zone around each well. Two larger maps were also created to show the full extent of Oak Creek and the public water systems nearby. Oak Creek stretches 35 miles starting north of Sedona and winds its way south to the Verde River. Sections of Oak Creek have exceeded water quality standards for E. coli.

Georgia

City of Colquitt – Identifying the Wellhead Protection Area:

The city of Colquitt is located in the Dougherty Plain of southwest Georgia. The Dougherty Plain is a northeast-southwest oriented, flat plain bound on the northeast by the Fall Line Hills and to the southwest by the Tifton Uplands. Surface soils are sand to clay in composition, ranging from well-drained to poorly-drained. This soil is composed of a mixture of residuum from dissolution of limestone and imported fine sands through fluvial transport. Few surface water streams dissect the area, since there is little run off due to low-grade porous sands. The residuum in the Colquitt area varies in thickness between 50-75 feet and overlies the Ocala limestone. The Ocala limestone is characterized by having a primary and relatively high secondary porosity. Solution channels are common as well as collapse of these structures, resulting in the large number of sinkholes that occur in the vicinity. Large yielding wells can be found signifying the relative abundance and rapid flow characteristics of this aquifer.

The management zone relies more heavily on fractures traces and soil draining properties than calculated data. Since the aquifer is highly transmissive and highly heterogeneous, numerical calculations may greatly underestimate flow velocity and direction. The outer-management zone is therefore much wider and extends further up-gradient than calculated. The down-gradient extent includes surface water divides in the city to the southwest. To the northwest and southeast, fracture traces are included that may direct flow toward the well. To the northeast and east, the up-gradient extent goes to areas that have mappable fracture traces and well draining soils. In addition to an outer-management zone, an additional zone of protection is needed in the Colquitt area. A number of private wells are located within the outer-management zone that potentially allows direct and rapid connection to the aquifer. These areas and their respective drainage basins are included in a "zone of high vulnerability."

Massachusetts

Updating SWAP Potential Sources of Contamination:

In 2010, Drinking Water Program (DWP) introduced an electronic Annual Statistical Report (eASR) that replaced paper reporting. Electronic reporting saves staff time, paper, mailing costs, and other resources for both public water suppliers and Massachusetts Department of Environmental Protection (MassDEP). The new eASR allows public water suppliers the opportunity to update information on the potential sources of contamination that were identified in their water supply protection areas during the SWAP Program. The updated SWAP information is then migrated to DWP's database. DWP is in the process of reviewing the extent of water supplier participation in the voluntary update of their SWAP information.



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

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.

Table 1: Public Water System Information

<i>PWS Name</i>	Wellesley Water Division
<i>PWS Address</i>	455 Worcester Street
<i>City/Town</i>	Wellesley, Massachusetts 02481-4925
<i>PWS ID Number</i>	3317000
<i>Local Contact</i>	Joseph Duggan - Superintendent
<i>Phone Number</i>	(781) 235-7600

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.

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.

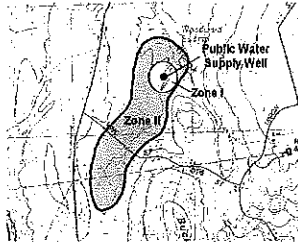
Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes the following sections:

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

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.



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.

Section 1: Description of the Water System

Zone II #: 153

Susceptibility: High

Well Names	Source IDs
Morses Pond Wells	3317000-03G

Zone II #: 275

Susceptibility: High

Well Names	Source IDs
Wellesley Ave. Dug Wells	3317000-02G
Rosemary Well	3317000-04G
Longfellow Well	3317000-05G
T.F. Coughlin Well	3317000-06G

The wells for the Wellesley Water Division are located within two separate water supply protection areas, with portions of Zone II #275 extending into the town of Needham. Each well has a Zone I radius of 400 feet. The wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contaminant migration. Please refer to the attached map of the Zone II.

The Wellesley Water Division purchases a portion of its water supply from the Massachusetts Water Resources Authority (MWRA). Attached, please find a copy of the SWAP report prepared for the MWRA sources.

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>

Section 2: Land Uses in the Protection Areas

The Zone IIs for Wellesley are a mixture primarily of residential, forest, and recreational land uses, with a small portion consisting of other uses such as commercial (refer to 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. Agricultural and Golf Course Activities
3. Residential Land Uses
4. Transportation Corridors
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.

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. Only water supply activities are allowed in the Zone I. 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:

Morses Well - There are two homes, both of which are on municipal sewer, and a local road in the Zone I.

Wellesley Avenue Dug Well - There are five homes, two of which are on private septic systems, and a local road in the Zone I.

Rosemary Well - A portion of a car dealership, and Route 9 in the Zone I.

Longfellow Well - Route 9 crosses through the northern portion of the Zone I.

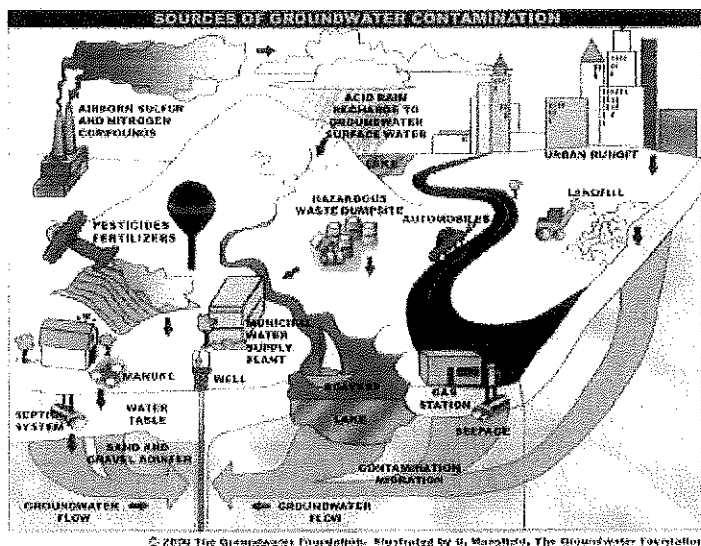
T.F. Coughlin Well - There are five homes, two of which are on private septic systems, and a local road in the Zone I.

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.
- ✓ Agreement Options - Attempt to obtain a *Memorandum of Understanding*.

Memorandum of Understanding (MOU) is an agreement between the landowner and public water supplier in which the landowner agrees not to engage in specific threatening activities. The MOU should be specific to the land use or activity. For instance, if the land is residential with a septic system the owner could agree not to place chemicals, petroleum products, or other hazardous or toxic substances, including septic system cleaners into the septic system, and that the system will be pumped at a specific frequency. The application of lawn care chemicals could also be restricted. Understanding how activity threatens drinking water quality is an important component of developing an effective MOU.

2. Golf Course and Agricultural Activities – Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed of. If not contained or applied properly, animal waste from barnyards, manure pits and field application is a potential source of contamination to ground and surface water.



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.

Golf Course and Agricultural Activities Recommendations:

- ✓ Encourage owners and operators of agricultural operations to consult with the Massachusetts Department of Food and Agriculture's regarding "On-Farm Strategies to Protect Water Quality - An Assessment & Planning Tool for Best Management Practices" (December 1996) for information about technical and financial assistance programs related to erosion and sediment control and nutrient, pest, pesticide, manure, waste, grazing, and irrigation management.

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.

- ✓ Partner 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 (NRCS) farm plan to protect water supplies.
- ✓ Encourage the farmers and golf course managers to incorporate an **Integrated Pest Management (IPM)** approach into their pest management program. IPM is an ecologically-based approach to pest control that links together several related components, including monitoring and scouting, biological controls, mechanical and/or other agricultural practices, and pesticide applications. By combining a number of these different methods and practices, satisfactory pest control can be achieved with less impact on the environment.
- ✓ Promote **Best Management Practices (BMPs)** for fuel oil storage,

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.

- hazardous material handling, storage, disposal, and emergency response planning.
- ✓ Work with farmers and golf courses to ensure that pesticides and fertilizers are being stored within a structure designed to prevent runoff.

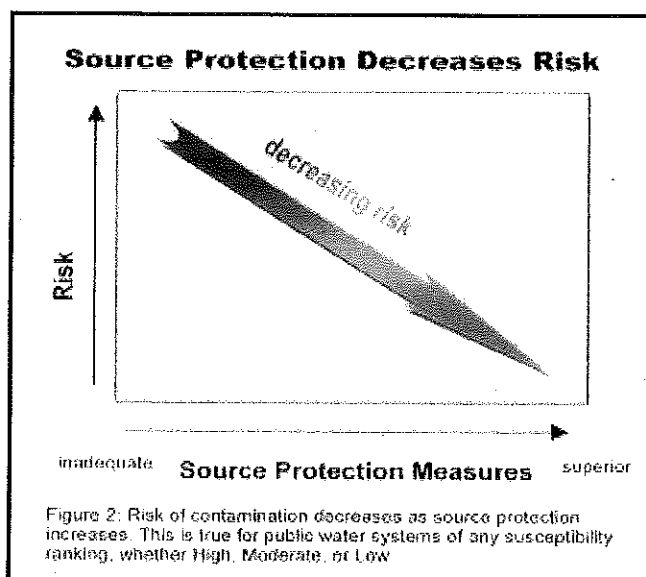
3. Residential Land Uses – If managed improperly, activities associated with residential areas can contribute to drinking water contamination.

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 could 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.
- **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 on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.
- ✓ Work with planners to control new residential developments in the water supply protection areas.



- ✓ Promote BMPs for stormwater management and pollution controls.

4. Transportation Corridors - 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. De-icing salt, automotive chemicals and other debris on roads are picked up by stormwater and wash in to catchbasins.

Transportation Corridor Recommendations:

- ✓ Identify stormwater drains and the drainage system along transportation corridors. Wherever possible, ensure that drains discharge stormwater outside of the Zone II.
- ✓ Work with the Town and State to have catch basins inspected, maintained, and cleaned on a regular

(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 Protection Areas (Zones I and II)

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

Activities	Quantity	Threat*	Zone II ID#	Potential Source of Contamination*
Agricultural				
Fertilizer Storage or Use	1	M	275	Leaks, spills, improper handling, or over-application of fertilizers
Livestock Operations	1	M	275	Improper handling of manure (microbial contaminants)
Pesticide Storage or Use	1	H	275	Leaks, spills, improper handling, or over-application of pesticides
Commercial				
Body Shops	1	H	275	Improper management of vehicle paints, solvents, and primer products
Service Stations/ Auto Repair Shops	2	H	275	Spills, leaks, or improper handling of automotive fluids, and solvents
Cemeteries	2	M	275	Leaks, spills, improper handling, or over-application of pesticides; historic embalming fluids (such as arsenic)
Golf Courses	1	M	275	Over-application or improper handling of fertilizers or pesticides
Medical Facilities	1	M	275	Spills, leaks, or improper handling or storage of biological, chemical, and radioactive wastes
Photo Processors	1	H	275	Spills, leaks, or improper handling or storage of photographic chemicals
Railroad Tracks And Yards	2	H	153, 275	Over-application or improper handling of herbicides, leaks or spills of transported chemicals and maintenance chemicals; fuel storage
Residential				
Fuel Oil Storage (at residences)	numerous	M	153, 275	Spills, leaks, or improper handling of fuel oil
Lawn Care/ Gardening	numerous	M	153, 275	Over-application or improper storage and disposal of pesticides
Septic Systems/ Cesspools	numerous	M	153, 275	Microbial contaminants, and improper disposal of hazardous chemicals
Miscellaneous				
Aboveground Storage Tanks	2	M	275	Spills, leaks, or improper handling of materials stored in tanks

Activities	Quantity	Threat*	Zone II ID#	Potential Source of Contamination*
Miscellaneous				
Fishing/Boating	1	L	275	Fuel and other chemical spills, microbial contaminants
Military Facilities (Past And Present) Type: Nike Site	1	H	275	Spills, leaks, or improper handling or storage of pesticides and herbicides, fuel, chemicals and other materials; may include ordnance or waste landfill/dump sites
Oil or Hazardous Material Sites	5	--	275	Tier Classified Oil or Hazardous Materials Sites are not ranked due to their site-specific character. Individual sites are identified in Appendix B.
Schools, Colleges, and Universities	3	M	153, 275	Spills, leaks, or improper handling or storage of fuel oil, laboratory, art, photographic, machine shop, and other chemicals
Small quantity hazardous waste generators	1	M	275	Spills, leaks, or improper handling or storage of hazardous materials and waste
Snow Dump	1	M	275	Improper handling of melt water containing de-icing and other chemicals from roads and parking lots
Stormwater Drains/Retention Basins	numerous	L	153, 275	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way	1	L	275	Construction and corridor maintenance, over-application or improper handling of herbicides
Transportation Corridors	2	M	275	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Underground Storage Tanks	3	H	275	Spills, leaks, or improper handling of stored materials
Very Small Quantity Hazardous Waste Generator	2	L	275	Spills, leaks, or improper handling or storage of hazardous materials and waste
Water Supply Protection Area % that is Sewered = 50%				
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 3: 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 B: Tier Classified Oil and/or Hazardous Material Sites.				
THREAT RANKING - 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				

(Continued from page 4)

- ✓ schedule. Street sweeping reduces the amount of potential contaminants in runoff.
- ✓ Work with Town and State emergency response teams to ensure that any spills within the Zone IIs can be effectively contained.
- ✓ If storm drainage maps are available, review the maps with emergency response teams. If maps aren't yet available, work with city officials to investigate mapping options such as those in the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping.

5. Presence of Oil or Hazardous Material Contamination Sites – The Zone II for the Wellesley Ave., Rosemary, Longfellow, and Coughlin Wells contains DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Numbers 3-0000386, 3-0000391, 3-0003480, 3-0010939, and 3-0012050. 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.

6. Protection Planning – The Town of Wellesley does not have water supply protection controls that meet DEP's Wellhead Protection regulations 310 CMR 22.21(2). Protection planning protects drinking water by managing the land area that supplies water to a well. A Wellhead Protection Plan coordinates community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. There are resources available to help communities develop a plan for protecting drinking water supply wells.

Protection Planning Recommendations:

- ✓ 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 to compare local wellhead protection controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). If there are no local controls or 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 floordrains, be sure to include floordrain controls that meet 310 CMR 22.21(2).

Top 5 Reasons to Develop a Local Wellhead Protection Plan

- ❶ Reduces Risk to Human Health
- ❷ Cost Effective! Reduces or Eliminates Costs Associated With:
 - ♦ Increased groundwater 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.

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 a 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 into the Zone II.
2. The groundwater in this area discharges to a 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.

Other land uses and activities within the Zone II 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 IIs 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:

- Redirecting drainage outside of the Zone II from the section of Route 9 that is adjacent to the Rosemary Well
- Town sponsored monitoring of Rosemary Meadow observation wells off Wellesley Avenue
- Homeowner's pesticide awareness program through the Natural Resource Commission

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?	NO	To the extent possible, remove non-water supply activities from each Zone I to comply with DEP's Zone I requirements. Investigate options for gaining ownership or control of the Zone I for groundwater sources.
Is the Zone I posted with "Public Drinking Water Supply" Signs?	YES	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is 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?	NO	Monitor non-water supply activities in Zone I, and investigate options for removing these activities.
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 Selectmen to develop bylaws that meet land use controls required by 310 CMR 22.21(2) and 310 CMR 22.20B & C. Refer to www.state.ma.us/dep/brp/dws/ for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the Zone II areas extending into their communities?	Unknown	Work with the town of Needham to develop land use restrictions that meet 310 CMR 22.21(2), and to include Wellesley's Zone II in their wellhead protection controls.
Planning		
Does the PWS have a Wellhead Protection Plan?	NO	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	Supplement 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 wellhead protection committee?	NO	Establish committee; include representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	NO	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 wellhead protection education?	SOME	Currently, the only outreach is through the annual Consumer Confidence Report, Natural Resource Commission, and DPW newsletter. Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial and municipal uses within the Zone II.

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Inspect the Zone I 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 Zone II 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.
- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a NRCS farm plan to protect water supplies.
- ✓ Develop and implement a Wellhead Protection Plan.

Resources for Drinking Water Source Protection:

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>.

Conclusions:

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.

For More Information

Contact Anita Wolovick in DEP's Wilmington Office at (978) 661-7768 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, board of health, and the town.

Additional Documents:

To help with source protection efforts, more information is available by request or online at mass.gov/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

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

APPENDIX A: DEP PERMITTED FACILITIES WITHIN WELLESLEY'S WATER SUPPLY PROTECTION AREAS

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
222001	DAVID RICH PRINTING COMPANY	118 CEDAR ST	WELLESLEY	HANDLER	Very Small Quantity Generator
328006	AMTRAK	WEST STREET AND HIGHLAND AVENUE	NEEDHAM	HANDLER	Very Small Quantity Generator
328006	AMTRAK	WEST STREET AND HIGHLAND AVENUE	NEEDHAM	HANDLER	VERY SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
325907	CVS #2128	936 HIGHLAND AVENUE	NEEDHAM	HANDLER	Small Quantity Generator
325907	CVS #2128	936 HIGHLAND AVENUE	NEEDHAM	DISCHARGE	MWRA SEWER CONNECTION
363367	HIGHLAND CAR CARE CENTER INC	1032 HIGHLAND AVENUE	NEEDHAM	FUEL DISPENSER	Fuel Dispenser
52510	ROSEMARY OFFICE CENTER	145 ROSEMARY ST	NEEDHAM	PLANT	AIR QUALITY MINOR

UNDERGROUND STORAGE TANKS WITHIN WELLESLEY'S WATER SUPPLY PROTECTION AREAS

FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
HIGHLAND CAR CARE CENTER/1032 HIGHLAND AVE	1032 HIGHLAND AVENUE	NEEDHAM	GAS STATION	10000	GASOLINE
HIGHLAND CAR CARE CENTER/1032 HIGHLAND AVE	1032 HIGHLAND AVENUE	NEEDHAM	GAS STATION	6000	GASOLINE/DIESEL
VERIZON	540 HILLSIDE AVENUE	NEEDHAM	UTILITIES	4000	GASOLINE

For more information on underground storage tanks, visit the Massachusetts Department of Fire Services web site: <http://www.state.ma.us/dfs/ust/ustHome.htm>

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 located within the water supply protection area(s) should be considered in local drinking water source protection planning.

APPENDIX B – Table of Tier Classified Oil and/or Hazardous Material Sites within Wellesley's 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/sitellst.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
3-0000386	101-145 Crescent Road	Needham	Oil and Hazardous Material
3-0000391	150 West Street	Needham	Oil
3-0003480	1032 Highland Avenue	Needham	Oil
3-0010939	150 West Street	Needham	Oil
3-0012050	400 Hillside Avenue	Needham	Oil

For more location information, please see the attached map. The map lists the release sites by Release Tracking Number (RTN).