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

Manchester 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	Manchester Water Department
PWS Address	Town Hall
City/Town	Manchester-by-the-Sea, MA 01944-1399
PWS ID Number	3166000
Local Contact	Robert Moroney – DPW Director
Phone Number	(978) 526-4450

Introduction

We are all concerned about the quality of the water we drink. Drinking water sources 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

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.

Section 1: Description of the Water System

Groundwater Sources

Zone II #: 158 ***Susceptibility:*** High

Well Name	***Source ID#***
Lincoln Street Well	3166000-01G

Zone II #: 277 ***Susceptibility:*** High

Round Pond G.P. Well	3166000-02G
Round Pond Tubular Wells	3166000-03G

Surface Water Sources

Source Name	***Source ID #***	***Susceptibility***
Gravelly Pond	3166000-01S	High

Manchester-by-the-Sea Water Department (Manchester) maintains and operates four (4) public water supply sources. Manchester's water supplies are located within the North Coastal River basin. The watershed area (Zone C) for Gravelly Pond (01S) is located in the towns of Manchester, Beverly, Hamilton, and Wenham. The water supply protection area (Zone II) for Lincoln Street Well (01G) is located entirely within Manchester; and, the water supply protection area (Zone II) for Round Pond G.P. Well (02G) and Round Pond Tubular Wells (03G) is located within the towns of Hamilton, Manchester, and Wenham, with a small portion in Beverly.

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 water supply protection areas for Manchester's sources are primarily a mixture of forest, residential, and recreation land uses (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. Activities in Zone A
3. Residential Land Uses
4. Transportation Corridors
5. Golf Course
6. Comprehensive Surface Water Protection Planning

The ranking of susceptibility to contamination for Manchester's sources 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.

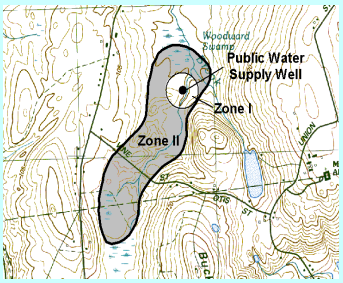
1. Activities in Zone I – The Zone I for the Lincoln Street Well (01G) and Round Pond G.P. Well (02G) is a 400 foot radius around the wellhead; the Zone I for Round Pond Tubular Wells (03G) is 250 feet around each well. Massachusetts drinking water regulations (310 CMR 22.00) requires public water suppliers 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 Zone I for: the Lincoln Street Well (01G) contains a portion of the golf course, parking for the high school, one (1) house on municipal sewer, and a portion of Lincoln Street; Round Pond G.P. Well (02G) contains two (2) houses on private septic systems and a portion of the local road; and Round Pond Tubular Wells (03G) contains a portion of the local road.

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.

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 I I protection area.



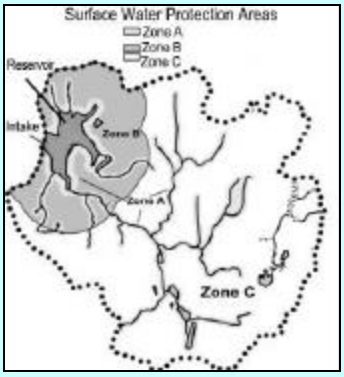
2. Activities in Zone A - The Zone A for a reservoir includes all areas within 400 feet of the reservoir shoreline and within 200 feet of either side of all streams and feeder ponds that flow into the reservoir. Land use activities within a Zone A may have an impact on surface water sources. Existing and future land use activities which may have an impact on surface water sources include: on-site septic systems; public and private recreational activities; untreated stormwater runoff; domestic animals; new construction; spills along roads; above ground and underground storage tanks; erosion; and, unpermitted and unauthorized activities. Also, wild animals and domestic pets can be carriers of waterborne diseases such as Giardia, Cryptosporidium, Salmonella, etc.

Zone A Recommendations:

- ✓ To the extent possible, remove all activities from the Zone As to comply with DEP's Zone A requirements.
- ✓ Use BMPs for the storage, use, and disposal of hazardous materials.
- ✓ Storage of pesticides, fertilizers or road salt within the Zone A should be covered and contained.
- ✓ Keep any new prohibited activities out of the Zone A.
- ✓ Identify stormwater drains and the drainage system along transportation corridors. Work to better manage stormwater by pre-treating contaminated stormwater and/or redirecting stormwater outside of the Zone A.
- ✓ Continue your efforts to protect these areas and to monitor and review activities within the Zone A.

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.



3. Residential Land Uses – Approximately 9% of the combined source protection areas consist of residential activities, of which a large portion is served by private septic systems, with the remainder being served by municipal sewering. 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.
- **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:
Work with communities within the combined source protection areas to:

- ✓ 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 control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls.

4. Transportation Corridors - A major transportation corridor and other paved and unpaved local roads cross through the source protection areas. Spills from vehicular accidents are a major concern. In addition, 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 into catch basins. The steep topography of the watershed results in application of de-icing materials to protect public health and safety by keeping the roads passable.

Transportation Corridor Recommendations:

- ✓ Identify stormwater drains and the drainage system along transportation corridors.
- ✓ Work with the Towns and State to have catch basins inspected, maintained, and cleaned on a regular schedule.
- ✓ Work with local emergency response teams to ensure that any spills 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 town officials to investigate mapping options such as the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping.

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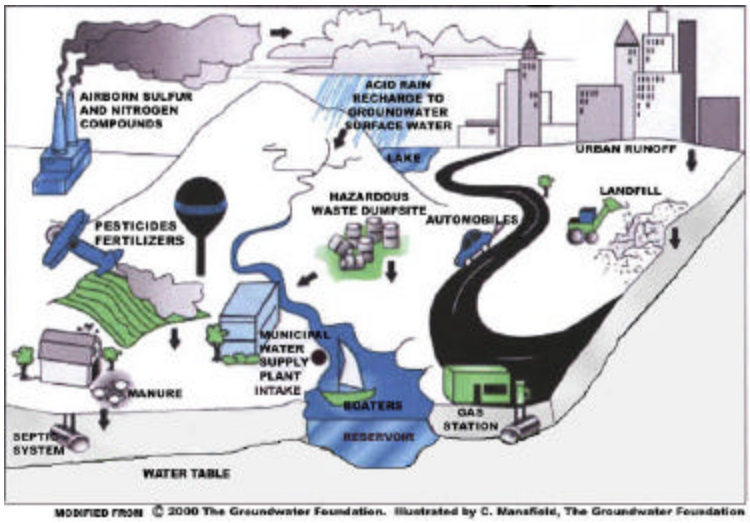

Figure 1: Sample watershed with examples of potential sources of contamination

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 Zone II & Zone C	Threat	Zone II # Zone C Source ID #	Potential Contaminant Sources*
Agricultural				
Fertilizer Storage or Use	1	M	277	Leaks, spills, improper handling, or over-application of fertilizers
Pesticide Storage or Use	1	H	277	Leaks, spills, improper handling, or over-application of pesticides
Commercial				
Service Stations/ Auto Repair Shops	1	H	158	Spills, leaks, or improper handling of automotive fluids, and solvents
Cemeteries	2	M	158	Leaks, spills, improper handling, or over-application of pesticides; historic embalming fluids
Golf Courses	1	M	158	Over-application or improper handling of fertilizers or pesticides
Residential				
Fuel Oil Storage (at residences)	100+	M	All	Spills, leaks, or improper handling of fuel oil
Lawn Care/Gardening	100+	M	All	Over-application or improper storage and disposal of pesticides
Septic Systems/ Cesspools	100+	M	277, 01S	Microbial contaminants, and improper disposal of hazardous chemicals
Miscellaneous				
Aboveground Storage Tanks	2	M	277, 01S	Spills, leaks, or improper handling of materials stored in tanks
Aquatic Wildlife	numerous	L	277, 01S	Microbial contaminants
Landfills and Dumps	2	H	01S	Seepage of leachate
Schools, Colleges, and Universities	3	M	158, 277, 01S	Spills, leaks, or improper handling or storage of fuel oil, laboratory, art, photographic, machine shop, and other chemicals
Stormwater Drains	several	L	158	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transportation Corridors	1	M	158, 277, 01S	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Underground Storage Tanks	4	H	158	Spills, leaks, or improper handling of stored materials

Land Uses	Quantity Zone II & Zone C	Threat	Zone II # Zone C Source ID #	Potential Contaminant Sources*
Miscellaneous				
Very Small Quantity Hazardous Waste Generators	1	L	158	Spills, leaks, or improper handling or storage of hazardous materials and waste
Waste Transfer/ Recycling Station	1	M	01S	Improper management, seepage, and runoff of water contacting waste materials
Water Treatment Sludge Lagoons	3	M	01S	Improper management of sludge and wastewater

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** - 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.

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- ✓ Establish vegetated buffers along roads and parking areas to provide some filtration of contaminants.
- ✓ Encourage regular street sweeping. Appendix A contains a fact sheet titled *DPWs Protect Drinking Water*.
- ✓ Conduct emergency drills to be ready for spills.
- ✓ Regularly inspect the watersheds for illegal dumping and spills.
- ✓ Work with local emergency response teams to ensure that any spills can be effectively contained.

5. Golf Courses - There is one golf course within the assessment area. Potential contaminants include the over-application or improper handling of pesticides and fertilizers. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. 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 Courses Recommendations:

- ✓ Encourage the golf course grounds manager to incorporate an Integrated Pest Management (IPM) approach into their grounds maintenance 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 cultural 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, hazardous material handling, storage, disposal, and emergency response planning.
- ✓ Contact owners/operators about water supply awareness and protection.

6. Protection Planning – Protection planning protects drinking water by managing the land area that supplies water to a reservoir. Currently, the Town of Manchester-by-the-Sea has a groundwater and surface water protection bylaw that meets DEP's Groundwater Protection regulations 310 CMR 22.21 and Surface Water Protection regulations 310 CMR 22.20 (b) and (c).

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.

A Groundwater and Surface Water Supply 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 reservoirs.

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".
- ✓ Encourage watershed towns to 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.
- ✓ Continue to work with town boards to review and provide recommendations on proposed development within your water supply protection areas. To obtain information on build-out analyses for the towns, see the Executive Office of Environmental Affairs' community preservation web site, http://commpres.env.state.ma.us/.

Other land uses and activities within the Protection areas 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

As with many water supply protection areas, the system watersheds contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2.

Current Land Uses and Source Protection:

As with many water supply protection areas, the system watersheds contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2.

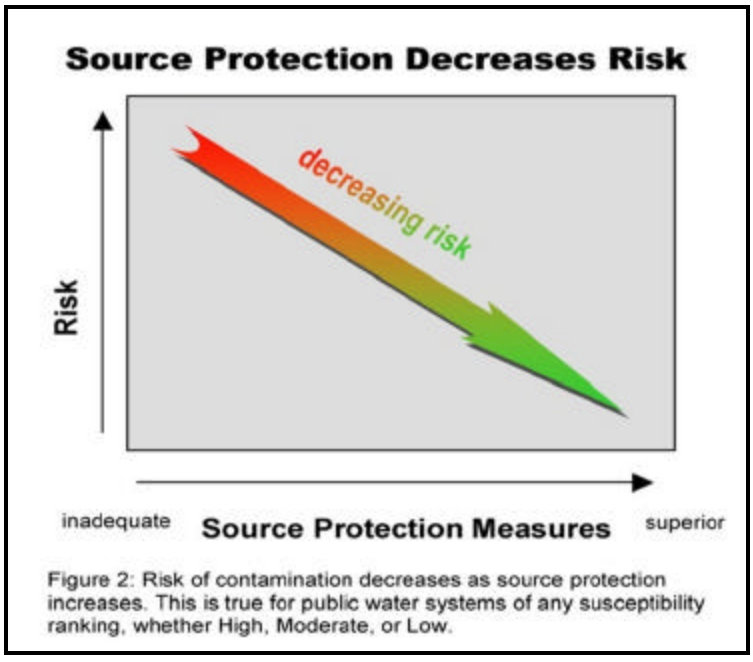

Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- Enforcement support for source protection bylaw
- Purchase of watershed property

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

- ✓ Develop and implement a Groundwater and Surface Water Supply Protection Plan.
- ✓ 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 watersheds and to cooperate on responding to spills or accidents.
- ✓ Work cooperatively with Boards of Health to develop an inventory of septic systems in watersheds.
- ✓ Work with businesses and others who have landscaped areas in the watersheds to encourage BMPs for the use of fertilizer and pesticide.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Continue to inspect the Zone A and Zone I areas regularly, and when feasible, remove prohibited non-water supply activities.

Top 5 Reasons to Develop a Local Groundwater 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.

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.

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.

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone A		
Does the Public Water Supplier (PWS) own or control the entire Zone I and Zone A?	**NO**	Follow Best Management Practices (BMPs) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials. To the extent possible, remove prohibited activities in Zone A and Zone I to comply with DEP's Zone A and Zone I requirements.
Are the Zone I's and Zone A posted with "Public Drinking Water Supply" Signs?	**YES**	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Are the Zone I's and Zone A regularly inspected?	**YES**	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone I and Zone A?	**NO**	Monitor prohibited activities in Zone A and Zone I, and investigate options for removing these activities.
Municipal Controls (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Surface Water Protection Controls that meet 310 CMR 22.20C and Wellhead Protection Controls that meet 310 CMR 22.21(2)?	**YES**	Work with the Planning Board to compare land use controls to see that they continue meet current requirements of 310 CMR 22.20 (B) and 310 CMR 22.20 (C). Refer to mass.gov/dep/brp/dws/ for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the water supply protection areas extending into their communities?	**YES** - Hamilton **UNKNOWN** - Beverly, Wenham	Work with adjacent communities to include Manchester's water supply protection areas in their protection controls.
Planning		
Does the PWS have a local surface water and wellhead protection plan?	**NO**	Develop and implement a surface water supply and wellhead protection plan. Follow "Developing a Local Wellhead Protection Plan" and "Developing a Local Surface Water Supply 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 watershed protection committee?	**NO**	Establish a committee with representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	**Fire Department**	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?	**SOME**	Currently, outreach is through the annual Consumer Confidence Report, treatment plant tours, and sign posting. Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups.

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 water supply protection areas. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

Section 5: 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

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

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.

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, town boards, and the local media.

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

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
136082	BAILEY'S SERVICE STATION	96 SUMMER STREET	MANCHESTER	VSQG	VERY SMALL QUANTITY GENERATOR OF HAZARDOUS WASTE
136082	BAILEY'S SERVICE STATION	96 SUMMER STREET	MANCHESTER	FULDSP	FUEL DISPENSER

UNDERGROUND STORAGE TANKS

FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
BAILEY'S SERVICE STATION	96 SUMMER STREET	MANCHESTER	GAS STATION	10000	GASOLINE
BAILEY'S SERVICE STATION	96 SUMMER STREET	MANCHESTER	GAS STATION	8000	GASOLINE
ESSEX COUNTY CLUB	153 SCHOOL STREET	MANCHESTER	COUNTRY CLUB	1000	GASOLINE
ESSEX COUNTY CLUB	153 SCHOOL STREET	MANCHESTER	COUNTRY CLUB	1000	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.