Massachusetts Department of Environmental Protection

Source Water Assessment and Protection (SWAP) Report

for

Danvers and Middleton

What is SWAP?

The Source Water Assessment and Protection (SWAP) Program, 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	Danvers Water Department (also serves Middleton)
PWS Address	30 Lake Street
City/Town	Middleton, MA 01949
PWS ID Number	3071000
Local Contact	David Lane
Phone Number	(978) 777-0001 ext. 3011

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

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 #: 254 ***Susceptibility:*** High

Well Name	***Source ID#***
Well #1	3071000-01G
Well #2	3071000-02G

Surface Water Sources

Source Name	***Source ID #***	***Susceptibility***
Middleton Pond Reservoir	3071000-01S	Moderate
Swan Pond Reservoir	3071000-02S	Moderate
Emerson Brook Reservoir	3071000-03S	Moderate

The wells for the Danvers and Middleton water supply are located within a single water supply protection area, with portions of the Zone II in the Towns of Danvers, Middleton, and Peabody, and a very small portion extending into Lynnfield. Each well has a Zone I radius of 400 feet. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. confining clay layer) that can prevent contaminant migration. Please refer to the attached map of the Zone II.

The reservoirs for Danvers and Middleton are located within three separate water supply protection areas. The Middleton Pond Reservoir water supply protection area is mostly in the Town of Middleton, and extends into the Town of North Reading. The Swan Pond Reservoir water supply protection area is in the Town of North Reading. The Emerson Brook Reservoir water supply protection area is in the Towns of Middleton, North Andover, and North Reading, with a small portion extending into the Town of Andover.

The system water is filtered, chlorinated for disinfection, fluoridated for dental health, and pH adjusted for corrosion control. 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

Danvers and Middleton watershed lands and Zone II lands are primarily a mixture of forest, and residential land use, with smaller portions consisting of commercial, industrial, and other 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. Hazardous Materials Storage and Use
4. Residential Land Uses
5. Transportation Corridors
6. Oil or Hazardous Material Contamination Sites
7. Comprehensive Wellhead Protection Planning

The ranking of susceptibility to contamination for the Well #1 & Well #2 Zone II is high, based on the presence of at least one high threat land use within the water supply protection areas, as seen in Table 2. The ranking of susceptibility to contamination for the Middleton Pond Reservoir, Swan Pond Reservoir and the Emerson Brook Reservoir Zone C is moderate, based on the presence of at least one moderate 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) require 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 Well #1 (01G) is not entirely owned or controlled by the public water supplier, and contains a portion of Route 114, and a portion of a gas station.

Zone I Recommendations:

- ✓ To the extent possible, remove all non-water supply activities from the Zone I 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 As - Land use activities within the Danvers and Middleton Zone As which, if managed improperly, may have an impact on surface water sources include: homes with on-site septic systems; residential storage of heating oil; local roads; stormwater runoff; and transmission line rights-of-way. 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 such as water supply chemicals and maintenance chemicals.
- ✓ 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.

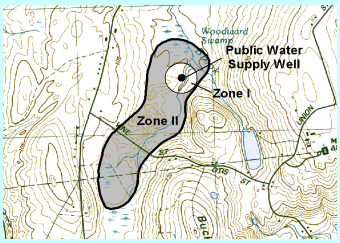
3. Hazardous Materials Storage and Use – Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store large quantities of hazardous materials in UST/AST. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. 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 floor drain requirements. See brochure "Industrial Floor Drains" for more information.

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.

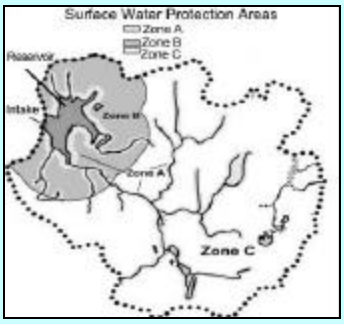


What are "BMPs?"

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.

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.



4. Residential Land Uses – Approximately 49% of Danvers and Middleton's combined Zone II and watershed lands consist of residential areas. Some of the areas have public sewers, and some use on-site 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.

- **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 control new residential developments in the water supply protection areas.

5. Transportation Corridors - State and local roads are common in the watersheds and Zone II. 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.

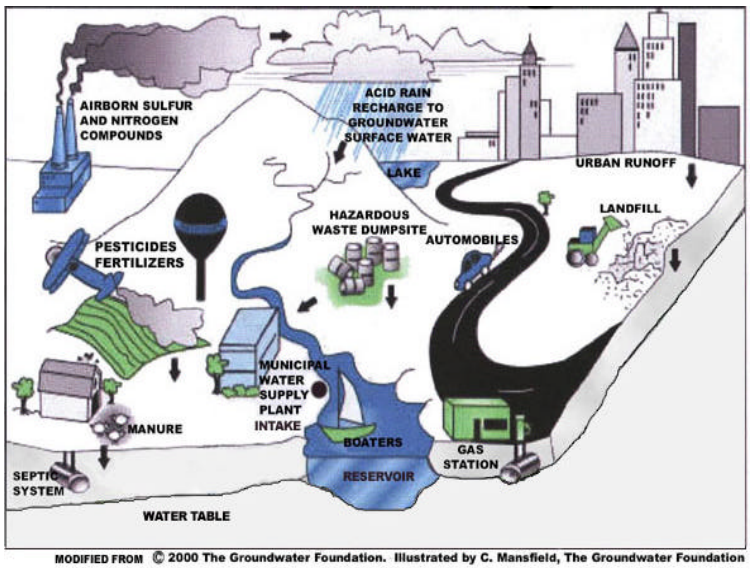


Figure 1: Sample watershed with examples of potential sources of contamination

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 Water Supply Protection Areas

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

Land Uses	Quantity	Threat	Zone II Number	Watershed Source ID	Potential Contaminant Sources*
Commercial					
Gas Stations	1	H	254	-	Spills, leaks, or improper handling or storage of automotive fluids and fuels
Service Stations/ Auto Repair Shops	4	H	254	-	Spills, leaks, or improper handling of automotive fluids, and solvents
Dry Cleaners	1	H	254	-	Spills, leaks, or improper handling of solvents and wastes
Golf Courses	1	M	-	01S	Over-application or improper handling of fertilizers or pesticides
Repair Shops (Engine, Appliances, Etc.)	1	H	254	-	Spills, leaks, or improper handling or storage of engine fluids, lubricants, and solvents
Industrial					
Machine/ Metalworking Shops	6	H	254	-	Spills, leaks, or improper handling of solvents; metal tailings
Residential					
Fuel Oil Storage (at residences)	Numerous	M	254	01S, 02S, 03S	Fuel oil: spills, leaks, or improper handling
Lawn Care/ Gardening	Numerous	M	254	01S, 02S, 03S	Pesticides: over-application or improper storage and disposal
Septic Systems/ Cesspools	Numerous	M	254	01S, 02S, 03S	Hazardous chemicals: microbial contaminants, and improper disposal
Miscellaneous					
Aboveground Storage Tanks	4	M	254	-	Spills, leaks, or improper handling of materials stored in tanks
Aquatic Wildlife and Pet Waste	Numerous	L	-	01S, 02S, 03S	Microbial contaminants
Landfills and Dumps	1	H	254	-	Seepage of leachate

Land Uses	Quantity	Threat	Zone II Number	Watershed Source ID	Potential Contaminant Sources*
Miscellaneous					
NPDES Locations	1	L	-	01S	Improper disposal of hazardous material and wastes
Oil or Hazardous Material Sites	6	--	254	03S	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	1	M	254	-	Spills, leaks, or improper handling or storage of fuel oil, laboratory, art, photographic, machine shop, and other chemicals
Small Quantity Hazardous Waste Generators	5	M	254	-	Spills, leaks, or improper handling or storage of hazardous materials and waste
Stormwater Drains/ Retention Basins	Numerous/ Several	L	254	01S, 02S, 03S	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way: electric & gas	1	L	254	01S, 02S, 03S	Construction and corridor maintenance, over-application or improper handling of herbicides
Transportation Corridors	3	M	254	01S, 02S	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Underground Storage Tanks	21	M	254	-	Spills, leaks, or improper handling or storage of hazardous materials and waste
Very Small Quantity Hazardous Waste Generator	5	L	254	03S	Spills, leaks, or improper handling or storage of hazardous materials and waste
Waste Transfer/ Recycling Station	1	M	254	-	Improper management, seepage, and runoff of water contacting waste materials
Water Treatment Sludge Lagoon	2	L	-	01S	Sludge and wastewater: improper management

Table 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.

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 watershed. Rail corridors serving passenger or freight trains are potential sources of contamination due to chemicals released during normal use, track maintenance, and accidents. Accidents can release spills of train engine fluids and commercially transported chemicals.

Transportation Corridor Recommendations:

- ✓ Regularly inspect watersheds and Zone II for illegal dumping and spills.
- ✓ Work with local emergency response teams to ensure that any spills within the protection areas can be effectively contained.

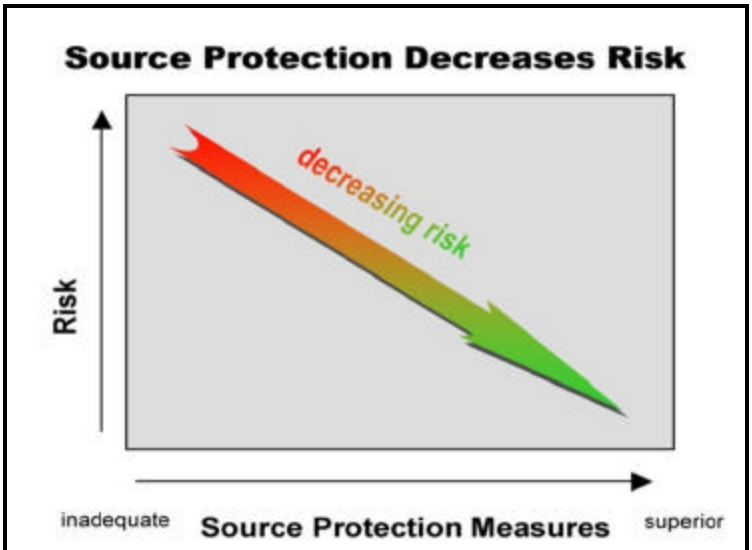


Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

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

6. Presence of Oil or Hazardous Material Contamination Site – The Zone II and watershed contain MADEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Number 3-0001941, 3-0004485, 3-0006062, 3-0015046, 3-0016824, and 3-0018425. Refer to the attached map and Appendix C for more information.

Oil or Hazardous Material Contamination Sites Recommendation:

- ✓ Monitor progress on any ongoing remedial action conducted for the known contamination sites.

7. Protection Planning – Protection planning protects drinking water by managing the land area that supplies water to a well or reservoir. Currently, the Town of Danvers has water supply protection controls that have been approved as meeting DEP's Wellhead Protection regulations 310 CMR 22.21(2), however, Middleton does not have water supply protection controls that have been approved as meeting DEP's 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. There are resources available to help communities develop plans for protecting drinking water supply sources.

Protection Planning Recommendations:

- ✓ Develop and implement Surface Water Supply and Wellhead Protection Plans. Refer your protection team to http://mass.gov/dep/brp/dws/protect.htm for a copy of DEP's guidance on developing plans.
- ✓ If your local surface water supply protection controls do not meet the current regulations, coordinate efforts with local officials to adopt local water supply protection controls that meet current MA regulations 310 CMR 22.21(2) and 310 CMR 22.20 (b) and (c). 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).
- ✓ 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 town, see the Executive Office of Environmental Affairs' community preservation web site, http://commpres.env.state.ma.us/.

Other land uses and activities within the Zone II 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's 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:

- Conducting an annual watershed inspection.
- Working actively with school children on protection related issues.
- Controlling access to the reservoirs and watershed.
- Conducting a source protection study that identified storm drains in the watershed.

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Inspect the Zone Is and As regularly, and when feasible, remove any non-water supply activities.
- ✓ 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.

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.

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.

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone I and Zone A		
Does the Public Water Supplier (PWS) own or control the entire Zone I and/or Zone A?	**YES** (Zone I for Well #2)	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
	NO (Zone I for Well #1 and Zone A for Reservoirs)	To the extent possible, remove prohibited activities in Zone A to comply with DEP's Zone A requirements. Investigate options for gaining ownership or control of the Zone A.
Are the Zone I 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 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?	**YES** (Zone I for Well #2)	Monitor for any non-water supply activities in Zone I and prohibited activities in Zone A, and investigate options for removing these activities.
	NO (Zone I for Well #1 and Zone A for Reservoirs)	Monitor prohibited activities in Zone I and Zone A, 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)?	**NO** - Middleton; **YES** - Danvers	Continue working with the Planning Board and the Board of Selectmen to compare land use controls to see that they meet current requirements of 310 CMR 22.21(2) and 310 CMR 22.20C. 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?	**NO**	Work with the communities of Middleton, North Andover, North Reading, and Peabody to encourage them to protect watershed and Zone II lands.
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 and wellhead protection committee?	**YES**	Encourage committee to include 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**	Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial, industrial and municipal uses within the Zone II and watershed.

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Develop and implement a Wellhead and Surface Water 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.

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

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

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 DANVERS/MIDDLETON WATER SUPPLY PROTECTION AREAS

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
178417	RONCO MACHINE CORPORATION	370 ANDOVER STREET	DANVERS	HANDLER	SMALL QUANTITY GENERATOR RCRA HAZARDOUS WASTE
1080	DANVERS WATER TREATMENT PLANT	30 LAKE STREET	MIDDLETON	SURFAC	SURFACE WATER DISCHARGE
135310	MIDDLETON AEROSPACE CORPORATION	206 SOUTH MAIN STREET	MIDDLETON	HANDLER	VERY SMALL QUANTITY GENERATOR OF HAZ WASTE
39508	MIDDLETON LANDFILL	11 NATSUE WAY	MIDDLETON	SLF	LANDFILL
39508	MIDDLETON TRANSFER STATION	11 NATSUE WAY	MIDDLETON	TRSTN	TRANSFER STATION FOR HAZARDOUS MATERIAL
298535	WALGREENS	230 SOUTH MAIN STREET	MIDDLETON	HANDLER	SMALL QUANTITY GENERATOR OF HAZ WASTE
304351	MIDDLETON DEPARTMENT OF PUBLIC WORKS	195 NORTH MAIN STREET	MIDDLETON	HANDLER	VERY SMALL QUANTITY GENERATOR OF HAZ WASTE PUBLIC WORKS
329379	114 IMPORTS INC	234 SOUTH MAIN STREET	MIDDLETON	HANDLER	VERY SMALL QUANTITY GENERATOR OF HAZ WASTE PUBLIC WORKS
361645	WATSON BROTHERS INC	6 BIRCH RD	MIDDLETON	HANDLER	VERY SMALL QUANTITY GENERATOR OF HAZ WASTE
363425	FAST FREDDIES	265 SOUTH MAIN STREET	MIDDLETON	FULDSP	FUEL DISPENSER
136102	PEABODY PUMP N PANTRY	137 NEWBURY STREET	PEABODY	FUEL DISPENSER	FUEL DISPENSER

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
136117	LAKE STREET CITGO	26 LAKE STREET	PEABODY	FUEL DISPENSER	FUEL DISPENSER
136117	LAKE STREET CITGO	26 LAKE STREET	PEABODY	HANDLER	SMALL QUANTITY GENERATOR OF WASTE OIL OR PCBS
326368	ALLIED WASTE SYSTEMS DBA VINING DISPOSAL SERVICES	295 FOREST STREET	PEABODY	TRSTN	TRANSFER STATION FOR TOXICS
326370	ALLIED WASTE SYSTEMS DBA VINING DISPOSAL SERVICES	295 FOREST STREET	PEABODY	HANDLER	SMALL QUANTITY GENERATOR OF HAZ WASTE
364207	ATLANTIC WASTE SYSTEMS NORTH	295 FOREST STREET	PEABODY	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
136118	J & H AUTO AND TRUCK REPAIR	129 NEWBURY STREET	PEABODY	FUEL DISPENSER	FUEL DISPENSER

UNDERGROUND STORAGE TANKS WITHIN DANVERS/MIDDLETON WATER SUPPLY PROTECTION AREAS

FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
PUMP N PANTRY	265 SOUTH MAIN STREET	MIDDLETON	GAS STATION	12000	GASOLINE
PUMP N PANTRY	265 SOUTH MAIN STREET	MIDDLETON	GAS STATION	10000	GASOLINE
PUMP N PANTRY	265 SOUTH MAIN STREET	MIDDLETON	GAS STATION	8000	GASOLINE
JOHN M. ROSS & SONS, INC.	50 BUXTON ROAD	DANVERS	CEMETARY	550	GASOLINE

FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
GAETA TOWING SERVICES	136 NEWBURY STREET	PEABODY	GAS STATION	10000	GASOLINE
GAETA TOWING SERVICES	136 NEWBURY STREET	PEABODY	GAS STATION	10000	GASOLINE
GAETA TOWING SERVICES	136 NEWBURY STREET	PEABODY	GAS STATION	4000	DIESEL
J & H AUTO/TRUCK REPAIR	129 NEWBURY STREET	PEABODY	GAS STATION	10000	GASOLINE
J & H AUTO/TRUCK REPAIR	129 NEWBURY STREET	PEABODY	GAS STATION	6000	GASOLINE
J & H AUTO/TRUCK REPAIR	129 NEWBURY STREET	PEABODY	GAS STATION	4000	GASOLINE
J & H AUTO/TRUCK REPAIR	129 NEWBURY STREET	PEABODY	GAS STATION	2000	DIESEL
PUMP N PANTRY	137 NEWBURY STREET	PEABODY	GAS STATION	12000	GASOLINE
PUMP N PANTRY	137 NEWBURY STREET	PEABODY	GAS STATION	12000	GASOLINE
REGIONAL WASTE SERVICES, INC,	295 FOREST STREET	PEABODY		10000	UNSPECIFIED

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 Danvers/Middleton 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
3-0001505	265 South Main Street	Middleton	Oil
3-0001941	234 South Main Street	Middleton	Oil
3-0004485	North Main Street	Middleton	Oil
3-0015046	North Main Street	Middleton	Oil
3-0016824	6-12 Birch Road	Middleton	Oil
3-0018425	1 Birch Road	Middleton	Hazardous Material
3-0001565	144 Newbury Street	Peabody	Oil
3-0006062	6 Bow Street	Peabody	Oil
3-0016711	137 Newbury Street	Peabody	Oil
3-0019019	144 Newbury Street	Peabody	Hazardous Material

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