Massachusetts Department of Environmental Protection

Source Water Assessment and Protection (SWAP) Report for

West Stockbridge Water Department

What is SWAP?

The Source Water Assessment 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 susceptibili ty 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	West Stockbridge Water Department
PWS Address	9 Main Street, P.O. Box 525
City/Town	West Stockbridge
PWS ID Number	1326000
Local Contact	Mr. Preston Lockenwitz
Phone Number	(413) 232-0309

Introduction

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

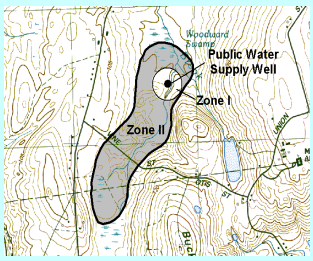
Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

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

System Susceptibility	***High***
Zone II #: 539	***Susceptibility:*** High

Well Names	***Source IDs***
Swamp Rd. Well #1	1326000-05G
Swamp Rd. Well #2	1326000-06G

The town of West Stockbridge is a small residential community in south Berkshire County, Massachusetts. West Stockbridge, settled in the 1700's, was established as an agrarian town, then developed with marble mining and mills along the waterways. Today the town hosts tourism and seasonal and year round residents. The West Stockbridge Water Department maintains two active water supply wells: Swamp Rd. Well #1 (05G) and Swamp Rd. Well #2 (06G). The Water Department also lists one surface water supply, Sartori Quarry 02S as an emergency source of water. The emergency source will not be addressed further in this report.

Wells #1 and #2 are located approximately 55 feet apart, within the same, relatively narrow, unconfined, sand and gravel aquifer that lies within the flood plain along the Cone Brook valley and are used alternately. Well #1 is a 6 x 12-inch diameter gravel packed well, 51 feet deep, installed in the 1993 to replace the surface water supply that was inadequate. Well #2, a back-up source, is an 8 x 12-inch diameter naturally developed well, approximately 48 feet deep, 55 feet from Well #1. Wells #1 and #2 are located within the same hydrogeologic regime, and therefore share the same Zone II contribution area. Well #1 was pump tested at a rate of approximately 100 gpm and has an approved withdrawal rate of 69.4 gpm (99,936 gpd). Well #2 was also tested at a rate of approximately 100 gpm and has an approved withdrawal rate of 30 gpm. The Town owns the 400-foot Zone I radial area around Well #1. However, the Town could not easily acquire additional land for the 400 foot Zone I radius for Well #2. Therefore, the approved withdrawal rate for Well #2 is limited to 30 gpm (43,200 gpd) by the Town's ownership of Zone I radial area of 345 feet. The Zone II (#539) is within the towns of West Stockbridge and Richmond.

The aquifer is a glacially deepened, bedrock valley that was filled in with sand and gravel deposited during the recession (melting) of the glaciers some 12-18,000 years ago. Streams and rivers have reworked and eroded the glacial deposits and recent streams have deposited additional alluvial material. Boring logs and maps in the Cone Brook valley indicate sand and gravel from ground surface to about 20-feet below grade underlain by a layer of silt and sand. That semi-confining layer of silt and fine sand is underlain by the principal aquifer which consists of channel deposits ranging from fine sand to course sand and gravel deposits up to 55 feet in depth. Although boring logs indicate silt and fine sand, there is no evidence of a continuous confining clay layer in the Cone Brook aquifer. Due to the proximity of wells to the Cone Brook, under extended duration pumping conditions it is likely that the Cone Brook contributes water to the aquifer supplying the wells.

The topography of the Zone II watershed is steep sloped valley with the narrow Cone Brook valley widening to the southwest at the confluence of Cone Brook and Furnace Brook at Shaker Pond. West Stockbridge Mountain borders on the southeast and Cone Hill on the northwest. The overburden material on the uplands in the watershed is predominantly a thin cover of glacial till, often referred to as hard pan, with significant areas of exposed bedrock. The brook valley has limited deposits of recent alluvium and swamp deposits underlain by stratified drift. The bedrock beneath the Zone II and Zone III is mapped as the Stockbridge Formation consisting of dolostone and marble. The structural geology of the region is highly complex with several stages of folding, faulting and significant structural movement with the Berkshire Massif to the east and the Taconic range to the west. The watershed is located within an area of faulted, overturned synclines and anticlines.

The Zone II for the wells was delineated as part of the SWAP program through the use of analytical modeling and geologic mapping. Aquifer characteristics were determined from data collected during extended duration pumping tests and borings drilled during groundwater exploration. The Cone Brook aquifer is considered to be highly vulnerable to contamination from land uses on the ground surface due to the absence of a hydrogeologic barrier (i. e. clay) that can prevent contaminant migration from activities on the land surface. Please refer to the attached map to view the boundaries of the Zone II and consult the Consumer Confidence report for current water quality data.

Water from the aquifer has a relatively high hardness and therefore Aqua-Mag phosphate sequestering agent is added to the water from the wells to prevent calcium precipitation in the distribution system. Water is also chlorinated for disinfection prior to distribution. For current information on water quality 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.

Section 2: Land Uses in the Protection Areas

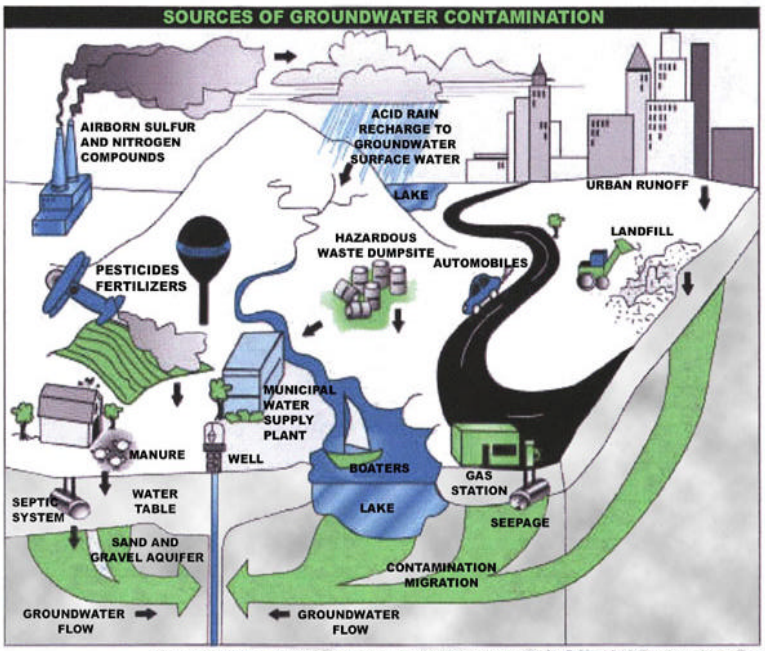
The land use within the Zone II for the Water Department wells is a mixture of forest, cropland, grazing and residential (refer to attached map for details). Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

Key Land Uses and Protection Issues include:

1. Zone I
2. Residential land uses
3. Transportation corridors
4. Agricultural activities
5. 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. Zone Is – The Zone I for Well #1 is a 400 foot radius around the wellhead while the Zone I for Well #2 is 345 feet. Currently, Massachusetts drinking water regulation (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the Zone I through a conservation restriction, Memorandum of Understanding or other legal mechanism as approved by the DEP. The public water supplier does own the entire Zone I for both of the wells but the



withdrawal is limited on Well #2 by the size of the Zone I. Only activities directly related to the water supply, or other non-threatening activities, as determined by the DEP, are allowed in the Zone I. The Department encourages ownership or control of the Zone I through various means as outline below.

The wells are located within the floodplain of Cone Brook and adjacent to a pasture for cattle. The Water Department applied for and was awarded a grant to improve the sanitary seals on the wells and observation wells, to construct a berm to protect the wells from flooding and ice damage, and to install a fence to prevent grazing animals from accessing the Zone I. The property immediately adjacent to the Zone I is part of a farm that has heavy equipment and associated petroleum and other products stored within the Zone II and Zone III of the wells. Although the facility is on the opposite side of Cone Brook and not within the Zone I, it is within close proximity to the wells.

Zone I Recommendations:

- ✓ Prohibit any new non-water supply activities from the Zone I.
- ✓ Consider for future expansion, options for purchasing land and/or negotiating a conservation restriction for land adjacent to the existing Zone I.
- ✓ Agreement Options - Until land is available for acquisition or restriction, attempt to obtain a Memorandum of Understanding and Right of First Refusal.
    - A 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 example, if the land is residential with a septic system, the owner could agree to not place chemicals, petroleum products, or other hazardous or toxic substances, including septic system cleaners, into the septic system, and agree that the system will be pumped at a specific frequency. As another example, the portions of fields within the Zone I would not have manure, fertilizers or pesticides spread on them. Understanding how an activity threatens drinking water quality is an important component of developing an effective MOU.
    - A Right of First Refusal is a legal document that gives the water supplier the first chance to purchase land when it becomes available. Please refer to the example of the Right of First Refusal documents attached in the Appendices.

The Department commends the West Stockbridge Water Department for its proactive efforts to acquire property and control activities within the Zone I and recommends continued efforts in establishing a program for planning to acquire ownership or control of additional property within the areas critical to protecting water quality. If there is no other reasonable method to secure rights and protect these sources, the Water Department may wish to consider taking necessary water supply land by

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.

For More Information

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

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

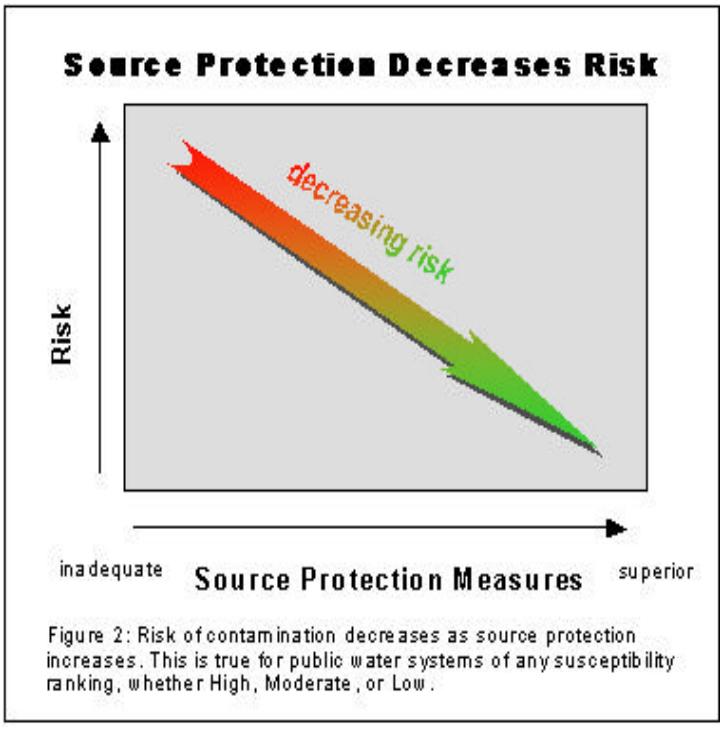


Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

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

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

Activities	Quantity	Threat*	Potential Source of Contamination
Agriculture			
Fertilizer/Pesticide Storage or Use—Crops	1	H	Fertilizers: leaks, spills, improper handling, or over-application
Livestock Operations	1	M	Manure (microbial contaminants): improper handling
Manure Storage	1	H	Microbial and nutrient contamination to surface and groundwater
Hazardous materials	Few	M	Fuel storage, petroleum products for equipment
Residential			
Fuel Oil Storage (at residences—ASTs/USTs)	Numerous	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Numerous	M	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Numerous	M	Hazardous chemicals: microbial contaminants, and improper disposal
Miscellaneous			
Transportation corridors	1	M	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling
Pole mounted electrical transformers	1	L	MODF and possibly PCBs: spills, leaks, or improper handling. Contact the electric company to ensure there are no PCBs within the transformers.

Table 2 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.

eminent domain to protect the sources. This recommendation is not only for the existing sources but also should be considered for future development of sources, if they are needed. We recommend consulting your Solicitor regarding land takings in another community.

2. Residential Land Uses – Approximately 20% of the Zone II consists of residential areas. The Zone II areas are not connected to municipal sewer and therefore utilize 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 (UST and AST) 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.
- ✓ Promote BMPs for stormwater management and pollution controls.
- ✓ Consider working with the Fire Chief to inventory fuel sources and storage methods in the Zone II. Provide BMPs to homeowners for fuel oil storage.

3. Transportation Corridors - Swamp Road and several other local roads run throughout the Zone II protection area. Roadway construction, stormwater runoff, 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 also frequent sites for illegal dumping of hazardous or other potentially harmful wastes. De-icing materials, automotive chemicals and other debris on roads are picked up by stormwater and wash into catch basins or directly into streams and brooks.

Transportation Corridor Recommendations:

- ✓ Identify stormwater drains and the drainage along transportation corridors. Wherever possible, ensure that drains discharge stormwater outside of the Zone II. Where it is practical, recommend water quality swales to slow stormwater flow and settle out sediments before they discharge to surface water.
- ✓ Contact the Town to ensure stormwater systems are inspected, maintained, and cleaned on a regular schedule. Street sweeping reduces the amount of potential contaminants in runoff.
- ✓ Continue current efforts of working and planning with local emergency response teams to ensure that any spills within the Zone II can be effectively contained and the Water Department is notified.

4. Agricultural Activities – There are a few farms (crop, hay and pasture) throughout the Zone II. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, animal waste from barnyards, manure piles and field application are potential sources of contamination to ground and surface water supplies. In addition, farms and large commercial facilities often conduct their own maintenance on their equipment and have storage of hazardous materials and waste.

Agricultural Activities Recommendation:

- ✓ If appropriate, work with the DEP to negotiate Conservation Restrictions for these land areas.
- ✓ Work with commercial farmers in your protection areas to make them aware of your water supply and to encourage the use of a USDA Natural Resources Conservation Service (NRCS) farm plan to protect water supplies. Review the fact sheet available online at http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf and call the local office of the NRCS in Pittsfield at 413-443-6867 for assistance.
- ✓ Encourage farmers and property 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 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 the use of BMPs for fuel oil storage, hazardous material handling, storage, disposal, and emergency response planning. Request that farmers evaluate their status as hazardous waste generators and register with DEP, as appropriate.
- ✓ Continue your current efforts with farmers to ensure that pesticides, fertilizers and manure are being stored within a structure designed to prevent runoff.
- ✓ The USDA has various funding sources for government agencies, non-government organizations and agricultural facilities through programs such as those listed on the USDA web site http://search.sc.egov.usda.gov/. One program in particular, the Environmental Quality Incentives Program (EQIP) may be utilized in a variety of projects from DPW stormwater management to farm nutrient management designed to protect surface and groundwater. Review the fact sheet available online at http://www.nrcs.usda.gov/programs/farmbill/2002/pdf/EQIPFct.pdf, and call the local office of the NRCS for assistance.
- ✓ Work with hobby farmers by supplying them with information about protecting their own wells, surface waters and the public water supply by encouraging the use of BMPs. Refer to http://www.state.ma.us/dep/brp/dws/dwspubs.htm and http://www.state.ma.us/dep/consumer/animal.htm#dwqual for additional resources.

5. Comprehensive Protection Planning – Currently, the Towns of West Stockbridge and Richmond do not have water supply protection controls that meet the requirements of the Department's Wellhead Protection regulation 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 can coordinate community and inter-community efforts, identify protection strategies, establish a timeframe for implementation, and provide a forum for public participation. There are resources available to help communities develop a plan for protecting drinking water supply wells.

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.

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

Protection Planning Recommendations:

- ✓ Consider preparing a Wellhead Protection Plan. Establish a protection team that includes participants from the Town of Richmond, 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".
- ✓ Request that the West Stockbridge and Richmond Boards of Health adopt floor drain controls and hazardous materials handling regulations and that the Planning Boards propose wellhead protection bylaws for the Zone II.

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. Other land uses and activities within the Zone II are listed in Table 2.

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 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:

- Proactively pursuing land acquisition and protection options in the Zone I,
- Maintaining detailed knowledge of activities within the protection areas,
- Efforts to work with land owners to control and manage manure and runoff.

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Inspect the Zone I regularly, and prohibit any non-water supply activities within the Zone I.
- ✓ 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.
- ✓ Consider inventorying USTs within the Zone IIs.
- ✓ Continue working 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 and continue efforts to include Richmond in source protection efforts.

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. When funds are available, the Department's Wellhead Protection Grant Program provides 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. Each spring, if funds are available, 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 encourage 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 protection area. 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 and Additional Documents on Source Protection

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone I		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	**YES**	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. Continue working with land owners to negotiate a Conservation Restriction or ownership to acquire additional land for protection.
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**	Continue to keep other land uses out of the Zone Is. Continue working with land owners to negotiate a CR, MOU and other forms of protection.
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 community Planning Board and Board of Health to adopt wellhead protection measures.
Do neighboring communities protect the Zone II areas extending into their communities?	**NO**	Richmond does not have wellhead protection measures in place that meet 310 CMR 22.21(2). Continue efforts to encourage neighboring communities to adopt bylaws and regulations to protect resources.
Planning		
Does the PWS have a Wellhead Protection Plan?	**NO**	Consider developing a plan and include strategies for future source development and protection. Refer to "Developing a Local Wellhead Protection Plan" available at: www.state.ma.us/dep/brp/dws/. Include Richmond officials in the plan development and implementation.
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	**YES**	Continue to work with the Fire Department, Board of Health, DPW, and local and state emergency officials.
Does the municipality have a wellhead protection committee?	**YES**	Include representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	**N/A**	
Does the PWS provide wellhead protection education?	**YES**	Aim additional efforts at residential and agricultural uses within the Zone II and as appropriate Zone III.