



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

<i>PWS Name</i>	Gardner Water Department
<i>PWS Address</i>	99 Heywood Street
<i>City/Town</i>	Gardner, Massachusetts
<i>PWS ID Number</i>	2103000
<i>Local Contact</i>	W. Daniel Jellis, P.E
<i>Phone Number</i>	(978) 630-8792

### Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

#### Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures.

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

#### This report includes the following sections:

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

### What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and a Zone II protection area.



### Glossary

**Aquifer:** An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

**Hydrogeologic Barrier:** An underground layer of impermeable material (i.e. clay) that resists penetration by water.

**Recharge Area:** The surface area that contributes water to a well.

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

**Zone II:** The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

## Section 1: Description of the Water System

Reservoir Names	Source IDs	Susceptibility
Crystal Lake	2103000-01S	High
Perley Brook Reservoir	2103000-02S	High
Cowie Pond	2103000-03S	High

Well Name	Source ID	Zone II #	Susceptibility
Snake Pond Well	2103000-01G	381	High

Gardner obtains its water supply from three surface water sources: Cowie Pond (03S), Perley Brook (02S), and Crystal Lake (03S). Water from Cowie Pond flows over a spillway located to the south end of the pond and into Perley Brook. From Perley Brook Reservoir, a pump station lifts water into Crystal Lake. Water is withdrawn from one withdrawal point, located at the southern end of Crystal Lake, and is treated at Crystal Lake Water Treatment facility. The Snake Pond Well is located south of Route 2, with the Zone II extending into Templeton and Hubbardston. The Crystal Lake Reservoir and the watershed is located entirely within the City of Gardner, off of Green Street. Perley Brook Reservoir and its watershed is located entirely within the City of Gardner, off of Clark Street, and Cowie Pond is located north of Route 140, off of Wheeler Street, with its watershed extending into Ashburnham and Winchendon. The topography of the watershed is varied, with areas ranging from open fields to steep wooded terrain. However, the fact that most of the land in the watershed is designated as municipal or other protected open space suggests that future development in the watershed will be limited. The well is located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contaminant migration. Please refer to the attached map to view the boundaries of the Zone II.

The surface water supplies and Snake Pond well are provided with packed tower aeration, disinfection, corrosion control, and flouridation of the water. Disinfection is supplied by sodium hypochlorite and ammonia addition to form chloramines. Corrosion control includes treatment of the water source with the addition of sodium hydroxide for pH adjustment and phosphate addition as a corrosion inhibitor. Flouridation of the source water is provided by a system designed to deliver sodium flouride prior to water delivery to the distribution system. For current information on monitoring results and treatment and a copy of the most recent Consumer Confidence Report, please contact the Public Water System contact person listed above in Table 1. Drinking water monitoring reporting data are also available on the web at <http://www.epa.gov/safewater/ccr1.html>.

## Section 2: Land Uses in the Protection Areas

The Zone II and Zone C for Gardner Water Department is mostly forested – approximately 66 % for the surface water sources & 55% for the groundwater source - with less than 5% residential land uses for both sources (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

**Key Land Uses and Protection Issues include:**

1. Zone I and Zone A Activities
2. Residential land uses
3. Transportation corridors
4. Hazardous materials storage and use
5. Oil or hazardous material contamination sites
6. Aquatic Wildlife
7. Golf Course
8. Comprehensive wellhead protection planning

The overall ranking of susceptibility to contamination for the system is high for all four sources. The high threat is 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 01G is a 400 foot radius around the wellhead. Massachusetts drinking water regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to own the Zone I, or control the Zone I through a conservation restriction. The Zone I for the well is owned by the public water system. The Zone I is fenced and gated. Only water supply activities are allowed in the Zone I. Gardner's Snake Pond Well has no non-water supply activities occurring within the Zone I.

**Activities in Zone A** - Existing and future land use activities which may have an impact on surface water sources include a highway and local road, parking areas, residential septic systems, recreational activities (skating rink) and aboveground storage tanks with fuel oil

**2. Residential Land Uses** – Approximately 1% of the Zone II and 2% of the Zone A land areas are residential areas. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – A portion of the city located within the protection areas

is not sewerred, and so have 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.

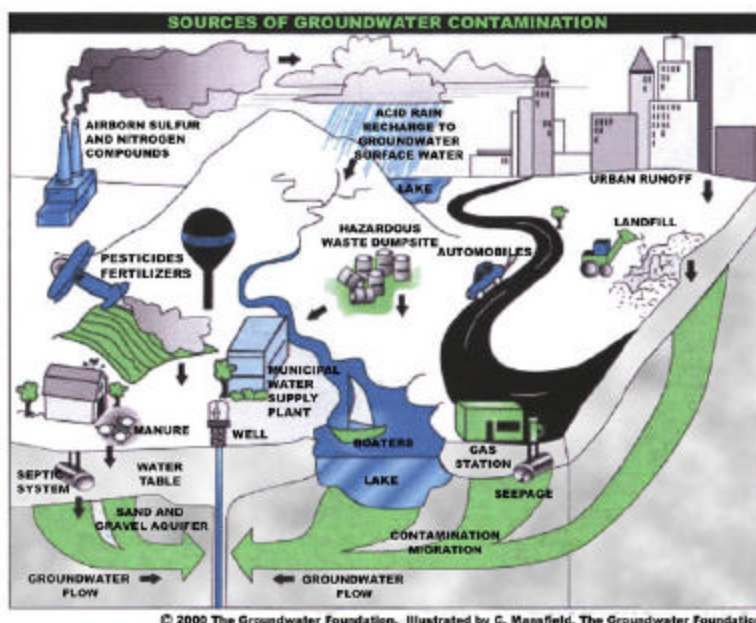
- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** –The houses within the Zone II and watershed have

**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.



Aboveground storage tanks with heating fuel in their basements. 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](http://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.

**3. Transportation Corridors** – Routes 2 and 140 run through the Zone II of well #01G and the watersheds of the reservoirs and pond. Local roads are also common throughout these areas. Roadway construction, maintenance, and typical highway use can all be potential sources of contamination. Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. De-icing salt, automotive chemicals and other debris on roads are picked up by stormwater and wash in to catchbasins.

An airport is located within the Zone II of well #01G. An airport serving passenger or freight is a potential source of contamination due to chemicals released during normal use, airport maintenance, and accidents. Accidents can release spills of engine fluids and possibly commercially transported chemicals.

#### **Transportation Corridor Recommendations:**

- ✓ 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 II.
- ✓ Work with the Town and State to have catch basins inspected, maintained, and cleaned on a regular schedule. 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.
- ✓ Work with local officials during their review of the railroad right of way Yearly Operating Plans to ensure that water supplies are protected during vegetation control.

(Continued on page 6)

#### **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 Josephine Yemoh-Ndi in DEP's Worcester Office at (508) 849-4030 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.

#### **Source Protection Decreases Risk**

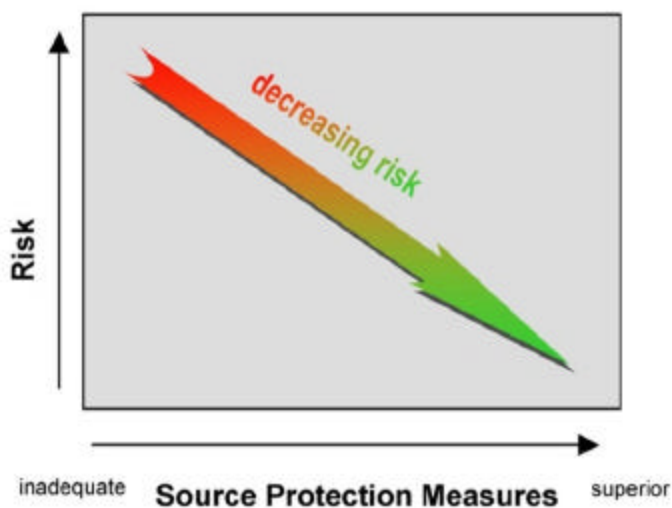


Figure 2: Risk of contamination decreases as source protection increases. This is true for public water systems of any susceptibility ranking, whether High, Moderate, or Low.

### 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 (Zones I and II)**

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

Land Uses	Quantity	Zone II or Watershed	Threat	Potential Contaminant Sources*
<b>Commercial</b>				
Airports	One	01G	H	Fuels, de-icers, salt, and other hazardous chemicals: spills, leaks, or improper handling
Golf Courses	One	01S	M	Fertilizers or pesticides: over-application or improper handling
Medical Facilities	One	01S	L	Biological, chemical, and radioactive wastes: spills, leaks, or improper handling or storage
<b>Residential</b>				
Fuel Oil Storage (at residences)	Several	All	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Several	All	M	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Several	All	M	Hazardous chemicals: microbial contaminants, and improper disposal
<b>Miscellaneous</b>				
Underground Storage Tank	One	01G	H	Material stored in tanks; spills, leaks, or improper handling
Aquatic Wildlife	Five	All	H/L	Microbial contaminants (Surface water sources are high; Groundwater source is low)
Fishing/Boating	One	01G	L	Fuel; and other chemicals spills, microbial contaminants
Large quantity hazardous waste generators	One	01S	H	Hazardous materials and waste; spills, leaks, or improper handling or storage
Schools, Colleges, and Universities	One	01S	M	Fuel Oil, laboratory, art, photographic, machine shop, and other chemicals; spills leaks, or improper handling or storage
Small quantity hazardous waste generators	One	01S	M	Hazardous materials and waste: spills, leaks, or improper handling or storage



Activities	Quantity	Zone II or Watershed	Threat*	Potential Source of Contamination
<b>Miscellaneous (Continued)</b>				
Stormwater Drains/ Retention Basins	Two	01S, 02S & 03S	L	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way	Three	01G, 01S & 02S	H/L	Corridor maintenance pesticides: over-application or improper handling; construction (Surface water is high; Groundwater is low)
Transportation Corridors	Four	All	H/M	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling (Surface water is high; Groundwater is moderate)
Underground Storage Tanks	One	01G	H	Stored materials: spills, leaks, or improper handling
Very Small Quantity Hazardous Waste Generator	One	01S	L	Hazardous materials and waste: spills, leaks, or improper handling or storage

**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.

**4. Hazardous Materials Storage and Use** – The Community College uses hazardous materials, produces hazardous waste products, and/or stores large quantities of hazardous materials. 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 school officials and 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](http://www.mass.gov/dep/brp/dws/protect.htm), which provides BMP’s for common business issues.
- ✓ Work with local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Educate local businesses on Massachusetts floordrain requirements. See brochure “Industrial Floor Drains” for more information.

**5. Presence of Oil or Hazardous Material Contamination Sites** – The Zone II contains DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Number 2-11470. Refer to the attached map and Appendix 3 for more information.

**Oil or Hazardous Material Contamination Sites Recommendation:**

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

**6. Aquatic Wildlife**—Birds, particularly gulls, are attracted to large open bodies of water. Birds may increase coliform bacteria levels through the release of fecal matter into the water and may carry other bacteria and viruses. Beaver and muskrat may introduce the pathogens *Giardia* and *Cryptosporidium* into water through fecal matter. Because of their constant contact with the water, these aquatic mammals represent a potential threat to drinking water reservoirs. Appendix A contains a DEP fact sheet titled *What You Need To Know About Microbial Contamination*.

**Aquatic Wildlife Recommendations:**

- ✓ Monitor wildlife populations in and around reservoirs.
- ✓ Where necessary, discourage and control aquatic wildlife. See <http://mass.gov/dep/brp/dws/protect.htm> for guidance and permits.

**7. Golf Course** – Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied or disposed of.

**Golf Course Activities Recommendations:**

- ✓ Work with the owner/golf course manager of the golf course to make them aware of your water supply .
- ✓ Encourage the owner/golf course manager 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.
- ✓ Work with the golf course to ensure that pesticides and fertilizers are being stored within a structure designed to prevent runoff.

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

**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.



drinking water supply wells.

**Protection Planning Recommendations:**

- ✓ Develop a Wellhead and Watershed Protection Plan. Establish a protection team, and refer them to <http://mass.gov/dep/brp/dws/protect.htm> for a copy of DEP’s guidance, “Developing a Local Wellhead Protection Plan”.
- ✓ Coordinate efforts with local officials to compare local wellhead and Watershed protection controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). If there are no local controls or they do not meet the current regulations, adopt controls that meet 310 CMR 22.21(2). For more information on DEP land use controls see <http://mass.gov/dep/brp/dws/protect.htm>.
- ✓ If local controls do not regulate floordrains, be sure to include floordrain controls that meet 310 CMR 22.21(2).

Other land uses and activities within the Zone II and Zone C 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

(Continued on page 9)

**Table 3: Current Protection and Recommendations**

Protection Measures	Status	Recommendations
<b>Zone I and Zone A</b>		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	<b>YES</b>	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.
Does the Public Water Supplier (PWS) own or control the entire Zone A?	<b>NO</b>	To the extent possible, remove prohibited activities from each Zone A to comply with DEP's Zone A requirements.
Are the Zone I & Zone A posted with "Public Drinking Water Supply" Signs?	<b>YES</b>	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Are the Zone I & Zone A regularly inspected?	<b>YES</b>	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone I?	<b>YES</b>	Continue to monitor Zone I.
Are water supply-related activities the only activities within the Zone A?	<b>NO</b>	Continue monitoring non-water supply activities in Zone A.
<b>Municipal Controls</b> (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Wellhead & Surface Water Protection Controls that meet 310 CMR 22.21(2)?	<b>NO</b>	The Town does not have a bylaw that meets DEP's requirements for wellhead protection. Refer to <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> for model bylaws and health regulations, and current regulations.
Do neighboring communities protect the Zone II and watershed areas extending into their communities?	<b>NO</b>	Work with neighboring municipalities to include Zone II & watershed in their water supply protection controls.
<b>Planning</b>		
Does the PWS have a Wellhead & local Surface Water supply Protection Plan?	<b>NO</b>	Develop a wellhead & surface Water Supply protection plan. Follow guides available at: <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> .
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	<b>YES</b>	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a wellhead & watershed protection committee?	<b>NO</b>	Establish committee; include representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	<b>YES</b>	For more guidance see "Hazardous Materials Management: A Community's Guide" at <a href="http://www.state.ma.us/dep/brp/dws/files/hazmat.doc">www.state.ma.us/dep/brp/dws/files/hazmat.doc</a>
Does the PWS provide wellhead & watershed protection education?	<b>NO</b>	Aim additional efforts at commercial, industrial and municipal uses within the Zone II and watershed.



land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those below should be used to better protect your water supply.

### Section 3: Source Water Protection Conclusions and Recommendations

#### Current Land Uses and Source Protection:

As with many water supply protection areas, the system Zone IIs contain potential sources of contamination. However, source protection measures reduce the risk of actual contamination, as illustrated in Figure 2. The water supplier is commended for taking an active role in promoting source protection measures in the Water Supply Protection A

- Pursuing the purchase of the Zone I for Snake Pond (Well #01G).
- Taking an active role in educating consumers by sending out news letters twice a year on "How to Protect Your Water Supply".

#### Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Continue to inspect the Zone I and Zone As regularly, and when feasible, remove any non-water supply activities.
- ✓ Educate businesses and continue to 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 watersheds and to cooperate on responding to spills or accidents.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Develop and implement a Wellhead and Surface Water Supply Protection

Plans.

#### 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

#### 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](http://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

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

## APPENDIX B: REGULATED FACILITIES WITHIN THE WATER SUPPLY PROTECTION AREA

### DEP Permitted Facilities

DEP Facility Number	Facility Name	Street Address	Town	Permitted Activity	Activity Class
309247	GARDNER AIRPORT	AIRPORT RD	GARDNER	Generator of Hazardous Waste	Air Quality Permit
311090	GARDNER MUNICIPAL AIRP.	1 AIRPORT RD	GARDNER	Generator of Hazardous Waste	Very Small Quantity Generator of Waste Oil or PCBs
311092	GARDNER MUNICIPAL AIRP.	1 AIRPORT RD	GARDNER	Industrial Wastewater Holding Tank Approval	Air Quality Permit

Note: This appendix includes only those facilities within the water supply protection area(s) that meet state reporting requirements and report to the appropriate agencies. Additional facilities may be located within the water supply protection area(s) that should be considered in local drinking water source protection planning.

### Underground Storage Tanks

Facility Name	Address	Town	Description	Tank Type	Tank Leak Detection	Capacity (gal)	Contents
GARDNER MUNICIPAL AIRP.	1 AIRPORT RD	GARDNER	AIRPORT	2 Wall	I	5080	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 may be located within the water supply protection area(s) that should be considered in local drinking water source protection planning.

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

DEP's datalayer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP's Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP's Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state's OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at <http://www.state.ma.us/dep/bwsc>. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at <http://www.state.ma.us/dep/bwsc/sitelist.htm>, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

**Table 1:** Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

<b>RTN</b>	<b>Release Site Address</b>	<b>Town</b>	<b>Contaminant Type</b>
2-11470	GARNER AIRPORT	TEMPLETON	Hazardous Material

For more location information, please see the attached map. The map lists the release sites by RTN.