

2011 Annual Drinking Water Quality Report

Harvard DPW Water Division

47 Depot Harvard, MA 01451

PWS ID # 2125000



Prepared by:

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JUNE 2012

This report is a snapshot of drinking water quality that we provided this past year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies. We are pleased to report that the Harvard Water System is currently in compliance with all state and federal drinking water regulations.

I. PUBLIC WATER SYSTEM INFORMATION

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Water System Management and Improvements

To ensure that we provide the highest quality of water available, your water system is operated by Massachusetts Certified Operators who oversee the routine operations of our system. Oversight is also provided by three Water Commissioners and by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial and managerial capacity to provide safe drinking water to you.

This past year we flushed the entire water distribution system in the spring and all the unlined water mains in the fall. Thanks to funding by Town Meeting, we are pleased to report that work is well underway to replace 90 year old pipes in many sections of the water system with new transmission lines. This will provide better water pressure for fire protection as well as improved water quality.

Opportunities for Public Participation

If you would like to participate in discussions regarding your drinking water, you are welcome to attend all public meetings of the Water Commissioners. The dates and times are posted at Town Hall. Your participation is welcomed and encouraged.

II. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources:

Source Name	DEP Source ID#	Source Type	Location of Source
Well # 2 (Primary Well)	2125000-02G	Bedrock	Pond Road
Well # 5	2125000-05G	Bedrock	Pond Road

The town also has an emergency well on Bolton Road (Well #3) which can only be used in the event of a major failure of our primary wells. This well may only be used as a non-potable source of water.

Is My Water Treated?

NO

Our water system makes every effort to provide you with safe and pure drinking water. We are pleased to report that your water does not need to be treated at this time to meet these goals. The water quality of our system is constantly monitored by us and the DEP to determine if any future treatment may be required.

How Are These Sources Protected?

These sources are protected by implementing recommendations received from MassDEP.

In 2001 MassDEP prepared a Source Water Assessment and Protection (SWAP) Report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of contamination to public water supplies and recommends monitoring and reducing activity within the Wellhead Protection Zones.

What is My System's Ranking?

A susceptibility ranking of **high** was assigned to our sources using the information collected during the assessment by the MassDEP.

Where Can I See The SWAP Report?

The complete SWAP report is available at *the Harvard Town Hall, Harvard DPW office @ 47 Depot Road* and online at www.mass.gov/dep/water/drinking/2125000.pdf. For more information, call *Richard Nota, Harvard DPW @ 978-456-4130*

What Are the Key Issues For Our Water Supply?

The SWAP report notes the key issue is that of inappropriate activities in the Zone I (the area within a 345-foot radius of Well # 2 and 304-foot radius of Well # 5). The inappropriate activities or land uses include roads, parking areas, buildings, stormwater drains, aquatic wildlife, and landscaping. The report also notes the presence of an underground fuel source and hazardous materials storage and use within the Interim Wellhead Protection Area (IWPA - 1,360 foot radius of Well #2 and 924 foot radius of Well #5).

What Can Be Done To Improve Protection?

The SWAP report recommends:

- *Removing or reducing all non-water supply activities from the Zone I.*
- *Storing fertilizers, pesticide, and road salt outside of the Zone I*
- *Inspecting and cleaning catch basins on a regular basis; also sweeping the street and parking lot*
- *Prohibiting the feeding of ducks and wildlife at the pond*

Residents can help protect sources by:

- *Practicing good septic system maintenance*
- *Supporting water supply protection initiatives at the next town meeting*
- *Taking hazardous household chemicals to hazardous materials collection days*
- *Contacting the Harvard Water Department or Harvard Board of Health to volunteer for monitoring or education outreach to schools*
- *Limiting pesticide and fertilizer use in or near the Zone I.*

III. SUBSTANCES FOUND IN DRINKING WATER

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants -such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants -such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides -this may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants -including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can, also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive contaminants -which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the MassDEP prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or by going to www.epa.gov.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

IV. IMPORTANT DEFINITIONS

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) –The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL) – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.

ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millirem per year (a measure of radiation absorbed by the body)

Unregulated Contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

V. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the tables are from the most recent round of testing done in accordance with the regulations. All data shown was collected during 2011 unless otherwise noted in the tables. The Harvard Water Department tests for over 100 contaminants on a regularly scheduled program developed by DEP. The following list represents contaminants found in detectable amounts. All other contaminants were not detected in our sampling.

	Date Collected	90 th Percentile	Action Level	MCLG	# of Sites Sampled	# of Sites above AL	Possible Source of Contamination
Lead	9/23/10	.002 mg/l	.015 mg/l	.015 mg/l	10	0	Corrosion of household plumbing systems
Copper	9/23/10	.063 mg/l	1.3 mg/l	1.3 mg/l	10	0	Corrosion of household plumbing systems

	Highest # Positive in a month	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	1	0	0	N	Naturally present in the environment
Fecal Coliform or E.coli	0	0	0	N	Human and animal fecal waste

Regulated Contaminant	Date(s) Collected	Highest Detect	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Sources of Contamination
Inorganic Contaminants							
Barium	5/23/11	0.038 mg/l	.002 mg/l	2 mg/l	2 mg/l	N	Erosion of natural deposits
Nitrate	5/23/12	.94 mg/l	.5 mg/l	10 mg/l	10 mg/l	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Radioactive Contaminants							
Gross Alpha (pCi/l)(minus uranium)	11/19/04	2.7 pCi/l	1.56-3.84	15 pCi/l	-	N	Erosion of natural deposits
Gross Beta pCi/l	6/19/08	2.5 pCi/l	1.0 pCi/l	60 pCi/l	-	N	Erosion of natural deposits

Unregulated Contaminants	Date Collected	Highest Detected	Average Detected	SMCL	ORSG	Possible Source of Contamination
Inorganic Contaminants						
Sodium	10/13/10	41.6 mg/l	29.0 mg/l	--	20 mg/l	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sulfate	7/20/10	17.0 mg/l	14.2 mg/l	250 mg/l	----	Natural sources

Organic Contaminants						
Perchlorate	7/12/11	.0006 mg/l	.00053 mg/l	---	.002 mg/l	Rocket propellants, fireworks, munitions, flares, blasting agents
Volatile Organic Contaminants						
Chloroform	5/17/11	.00000 mg/l	.00000 mg/l	---	.07 mg/l	By-product of drinking water chlorination

VI. COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

We are pleased to report that the Harvard Water System is currently in compliance with all state and federal drinking water regulations.

VII. EDUCATIONAL INFORMATION

Do I Need To Be Concerned About Certain Contaminants Detected In My Water?

Sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled. The Town of Harvard's Sodium results can be found under the Unregulated Contaminant chart.

VIII. ADDITIONAL INFORMATION

Is My Water Treated? NO

Our water system makes every effort to provide you with safe and pure drinking water. We are pleased to report that your water does not need to be treated at this time to meet these goals. The water quality of our system is constantly monitored by us and MassDEP to determine if future treatment may be needed.

Cross Connection Control Program

The Town of Harvard has an aggressive cross connection control program. All commercial, Industrial, and Municipal buildings are inspected for cross connections. A cross connection is a connection between a non-potable "non- drinkable" water source and a potable "drinkable" water source. If such a connection exists it must be protected with a backflow prevention device. Currently Harvard has 13 backflow devices installed throughout the public water system.

The Harvard Water Department also reminds customers that appropriate devices to isolate non-potable residential water uses such as irrigation systems and swimming pools must be installed to protect the water supply. Anyone with concerns or questions can call the Harvard DPW for additional information.

Conservation Tips

Allow grass to grow slightly higher than normal. This promotes deep root growth & requires less watering. Only wash clothes when a full load can be done. This saves approximately 25 gallons per washing cycle.

Message from your Certified Operator

We are working very hard to provide you the residents of Harvard with the best quality water possible. We test each and every month for coliforms and E.coli as well as tests for over 100 other contaminants on a regularly scheduled basis to make sure the water is safe to drink. If you have any questions regarding your public water supply, please feel free to contact the DPW office and speak with Public Works Director, Richard Nota.