2014 Annual Drinking Water Quality Report

For

Wellesley College

Wellesley, Massachusetts

MASSDEP PWSID # 3317001

This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what is found in the water and what we do to ensure high quality water for the College community and in compliance with state and federal standards.

I. PUBLIC WATER SYSTEM INFORMATION

Address: ***106 Central Street, Wellesley, MA***

Contact Person: ***John P. Brown***

Telephone #: ***781-283-2747***

Water System Improvements

Our water system is routinely inspected 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. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. Last year the static mixer in the well vault was changed to provide for more efficient mixing.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, please contact John P. Brown or Trina Learned in Facilities Management.

2. YOUR DRINKING WATER SOURCE

Where Does My Drinking Water Come From?

Your water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Botany Well #1	3317001-01G	Groundwater	East of Paramecium Pond
Botany Well #2	3317001-02G	Groundwater	East of Paramecium Pond

Is My Water Treated?

The quality of the water from the aquifer requires only a slight pH adjustment with potassium hydroxide, which is also used for corrosion control. The disinfectant against microbial contaminants is managed with sodium hypochlorite. Wellesley College does not fluoridate the water. In 2014, 99.5% of the potable water supply was obtained from the College's Botany Wells. Total potable water use from the wells for 2014 was 76,603,590 gallons. The College utilized an interconnection for water with the Town of Wellesley in November to facilitate the replacement of the static mixer in the well vault. Total water purchased from the town of Wellesley was 388,212 gallons.

The water quality of our system is monitored by MassDEP and the College to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

How Are These Sources Protected?
MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking?
A susceptibility ranking of high was assigned to this system using the information collected during the assessment by MassDEP in 2003. This was based on the presence of at least one high threat land use (i.e., railroad tracks) within the water supply protection areas.

Note that susceptibility to contamination does not imply poor water quality. Actual water quality is best reflected by the results of regulatory water quality testing.

Where Can I See The SWAP Report?
The complete SWAP report is available online at http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero/3317001.pdf For more information, call John Brown at 781-283-2747.

3. SUBSTANCES FOUND IN TAP 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 storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

Pesticides and herbicides -which may come from a variety of sources such as agriculture, urban storm water 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 storm water 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 Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The 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).

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.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Wellesley College is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

4. 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.

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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 (ng/l)
pCi/l = picocuries per liter (a measure of radioactivity)
NTU = Nephelometric Turbidity Units
ND = Not Detected
N/A = Not Applicable
mrem/year = millirems per year (a measure of radiation absorbed by the body)

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.

5. WATER QUALITY TESTING RESULTS

What Does This Data Represent?

The water quality information presented in the following table(s) is from the most recent round of testing completed in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

The MassDEP and EPA require us to test our water for over 80 drinking water contaminants on a regular basis. The water quality table included in this report does not list all of constituents we actually tested for. It lists only those constituents that were present in water at concentrations above the laboratory detection limit. This table also compares the detected constituent concentrations to the EPA standards, or Maximum Contaminant Level (MCL), the Massachusetts standards, or Massachusetts Maximum Contaminant Level (MMCL), or the MA Secondary Maximum Contaminant Level (SMCL). EPA limits can be found on the Internet at http://www.epa.gov/safewater/standards.html, and Massachusetts limits can be found on the internet at http://www.mass.gov/eea/agencies/massdep/water/regulations/regulations-and-standards.html

Wellesley College tested for lead and copper at end user taps in September 2014. The action level for both lead and copper was not exceeded and Wellesley College was in compliance for both lead and copper for 2014. However, due to elevated lead levels in some samples during 2009, Wellesley College has been working on removing and replacing select plumbing systems where elevated lead concentrations were found. This year the entire plumbing system at the Schneider Center was updated with new materials.

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	09/04/2014	4.2	15	0	10	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	09/04/2014	.62	1.3	1.3	10	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

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	Highest % Positive in a month	Total # Positive	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	0	< 5%	0	N	Naturally present in the environment
Fecal Indictor Positive Sample in Well Water	N/A	0	0	0	N	Naturally present in the environment

There was no coliform bacteria detected in the Wellesley College distribution system for 2014.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	6/13/2013	0.1004	-	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	6/13/2013	.0015	-	.10	.10	N	Discharge from pulp mills; erosion of natural deposits
Cyanide	6/13/2014	.008	-	.20	.20	N	Discharge from metal, plastics and fertilizer factories.
Nitrite (ppm)	5/13/2014	ND	-	0.05	1	N	Nitrite is a component in fertilizer.
Nitrate (ppm)	5/13/2014	2.3	-	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	10/7/2014	.285	-	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Volatile Organic Contaminants							
Chloroform (ppb)	05/13/2014	.52	-		0	N	Byproduct of drinking water chlorination
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly 2014	30.5	29.4-31.6	80	-----	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly 2014	6.2	4.5-7.8	60	-----	N	Byproduct of drinking water disinfection
Chlorine (ppm) (total)	Monthly 2014	1.02	.15-2.0	4	4	N	Water additive used to control microbes

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.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Inorganic Contaminants						
Sodium[1] (ppm)	6/13/2013	77		----	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sulfate (ppm)	6/9/2010	19		250	----	Natural sources
Secondary Contaminants						
Iron (ppb)	11/5/2013	ND		300	---	Naturally occurring, corrosion of cast iron pipes
Manganese[2] (ppb)	11/5/2013	ND		50*	---	Erosion of natural deposits
Alkalinity (ppm)	11/5/2013	78		none		Erosion of natural deposits
Calcium (ppm)	11/5/2013	18		none		Erosion of natural deposits
Chloride (ppm)	11/5/2013	132		250	---	Runoff from road de-icing, use of inorganic fertilizers, landfill leachates,

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
						septic tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas
Color (C.U.)	11/5/2013	6		15	---	Naturally occurring organic material
Hardness (ppm)	11/5/2013	57		None		Erosion of natural deposits
Magnesium (ppm)	11/5/2013	3		none		Erosion of natural deposits
Odor (T.O.N.)	11/5/2013	ND		3 TON	---	Erosion of natural deposits; Leaching from wood preservatives0
pH	11/5/2013	7.4		6.5-8.5	---	-----
Potassium (ppm)	11/5/2013	41		None		Erosion of natural deposits
Sulfate (ppm)	11/5/2013	17.4		250	---	Erosion of natural deposits
Total Dissolved Solids (TDS) (ppm)	11/5/2013	340		500	---	Erosion of natural deposits.

Sodium[1] 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.

Manganese[2] is a naturally occurring mineral. At a level greater than 50[*] ppb, the water will appear brown, taste unpleasant, and may leave black stains on fixtures or on laundry. While manganese is part of a healthy diet, it can be harmful if consumed in large concentrations; infants should not drink water that contains manganese above this level, especially if they are bottle fed. The U.S. EPA has established a lifetime health advisory (HA) of 300 ppb for manganese, to protect against concerns of potential neurological effects, and a one-day and ten-day HA of 1,000 ppb for acute exposure.

6. COMPLIANCE WITH DRINKING WATER REGS

Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

We are also proud to report that Wellesley College was a recipient of the 2013 Public Water Systems Small Community Award. This award was announced by the MassDEP during National Drinking Water Week in early May of 2013.

With suggestions from the 2014 Sanitary Survey conducted by MassDEP, The college has. (1) Moved a routine coliform bacteria sampling point closer to the water storage tank in order to get a more representative sample from the tank. (2) The college has also submitted a written protocol documenting the current procedure by which the chemical feed pump interlocks in the well vault are tested. (3) and the Staff will participate in additional, annual training hours concerning the college's Emergency Response Plan.