2024 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. Recently we have done water main upgrades in the Green Hall and Science Center area. We are currently in the process of a new main line/meter/pressure reducing station at Fiske Path, where our major Town connection is. This will result in a new water services to Fiske House, Page School, Daycare and the Weston Terrace apartments, as well as a more secure backup to Town of Wellesley water should we need it due to an unforeseen emergency situation.

Water Flavor Quality Testing Report
In 2015 we conducted an extensive water flavor survey campus-wide. We employed GEI Consultants, Inc. of Woburn, MA (engineers and scientists) who surveyed a representative sampling of the campus population. These blind taste tests were conducted at several open booth tasting events as well as off-campus. During both blind tests the Wellesley tap and filtered tap water was compared for taste and aftertaste to a variety of commonly purchased bottled water. The results concluded that tasters did not discern any meaningful differences between bottled water and Wellesley's drinking water. Because of this result, the department of Facilities Management and Wellesley Sustainability will continue to add more bottle-filling stations campus-wide and encourage the community to purchase less bottled water.

Opportunities for Public Participation
If you would like to participate in discussions regarding your water quality, please contact John P Brown (jbrown2@wellesley.edu) or Mike Lane (mlane4@wellesley.edu) 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 2024, the potable water supply was obtained from the College's Botany Wells and the Town of Wellesley. Total potable water use from the Botany wells for 2024 was 68,295,489 gallons.

In August 2022 an interim filtration system was constructed at the Botany Wells to remove PFAS from the drinking water to meet the current MCL set by the MassDEP. The filtration system uses Purolite Purofine® PFA694E Polystyrenic Gel ion exchange resin to remove PFAS.

The water quality of our system is monitored by MassDEP and the College to evaluate 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 https://www.mass.gov/doc/northeast-region-source-water-assessment-protection-swap-program-reports/download For more information, call John Brown at 781-283-2747.

3. SUBSTANCES FOUND IN TAP WATER

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 going on line here: https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information.

The 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.

Immuno-compromised Persons
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. Guidelines on lowering the risk of infection, by cryptosporidium or other microbial contaminants, are available from the Safe Drinking Water Hotline.

Regulatory Resources
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.

Lead Information
Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed),and young children. Lead in drinking water is primarily from materials and parts used in service lines and home plumbing. Wellesley College is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water, and wish to have your water tested, contact ***Wellesley College, John P Brown at 781.283.2747***. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at https://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 samples taken, 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 at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations and Massachusetts limits can be found at https://www.mass.gov/lists/massdep-drinking-water-regulations

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Range	Possible Source of Contamination
Spring 2024 Sampling								
Lead (ppb)	05/01/2024	5.8	15	0	22	0	ND-10.5	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	05/01/2024	0.4808	1.3	1.3	22	0	0.0756-0.9550	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Fall 2024 Sampling								
Lead (ppb)	11/13/2024	3.3	15	0	21	0	ND-5.4	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	11/13/2024	0.2660	1.3	1.3	21	0	0.0477-0.3446	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups, especially pregnant people, infants (both formula-fed and breastfed), and young children. Some of the health effects to infants and children include decreases in IQ and attention span. Lead exposure can also result in new or worsened learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy may be at increased risk of these harmful health effects. Adults have increased risks of heart disease, high blood pressure, kidney or nervous system problems. Contact your health care provider for more information about your risks.

Distribution System Bacteriological Sampling						
	Total Positive in a month	Total # Positive	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
Total Coliform	0	0	2	0	N	Naturally present in the environment
Fecal Coliform	0%	0	0%	0	N	Human and animal fecal waste

Ground Water Source Bacteriological Sampling						
Fecal Indicators	Result	Range	MCL	MCLG	Violation (Y/N)	Possible Source of Contamination
E. Coli	3 positive samples	ND – 1	0	0	N	Human and animal fecal waste

**On 10/11/2024 we learned from the lab that the ground water source sample collected on 10/09/2024 from Botany Well #1 was positive for Total Coliform and E. coli. On 10/11/2024 we consulted with MassDEP, and began the repeat sampling process, collecting 5 additional samples. As a result of the MassDEP consultation, a Tier 1 Public Notification was issued on 10/11/2024 to all customers, and verification of that notification was provided to MassDEP on 10/16/2024. On 10/12/2024, we were notified by the lab that 1 of the 5 repeat samples were positive for E. Coli, and 4 of the 5 repeat samples were positive for Total Coliform. On 10/12/2024, at the request of MassDEP, we recollected all source water and distribution coliform samples. On 10/13/2024 we were notified by the lab that the Botany Well #1 source water sample collected on 10/12/2024 tested positive for both Total Coliform and E. Coli. Following MassDEP's direction on 10/13/2024, Botany Well #1 was taken offline and the source inspected, with no significant deficiencies found. After consulting with MassDEP on 10/17/2024, a Corrective Action Plan was submitted and approved by MassDEP on 10/22/2024—calling for the disinfection and flushing of the well, followed by two consecutive days of negative Total Coliform and E. Coli sampling. Disinfection of the well was completed on 12/02/2024, and on 12/09/2024 we successfully completed two consecutive days of negative Total Coliform and E. coli sampling. With the approval of MassDEP, Botany Well #1 was reactivated on 12/10/2024. **

Health Effects: Fecal coliform and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some elderly, and people with severely compromised immune systems.

Regulated Contaminants

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)	9/20/2022	0.0866	-	2	2	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	04/09/2024	2.13	-	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	10/09/2024	0.091	-	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Annually 08/06/2024	9.7	9.0 – 9.7	80	-----	N	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Annually 08/06/2024	2.3	2.0 – 2.3	60	-----	N	Byproduct of drinking water disinfection
Chlorine (ppm) (total)	Monthly 2024	0.72 Average	0.33 – 0.97	4	4	N	Water additive used to control microbes

Total Organic Carbon	12/20/2022	.605	.605	TT	TT	N	Naturally present in the environment.

Secondary and Unregulated Contaminants

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 Contaminants are not related to public health and are established for aesthetics concerns only.

Secondary and Unregulated Contaminants						
Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Iron (ppb)	06/13/2023	ND		300	---	Naturally occurring, corrosion of cast iron pipes
Manganese[2] (ppb)	06/13/2023	ND		50*	---	Erosion of natural deposits
Alkalinity (ppm)	Bi-weekly 2024	58 - 79	68.28	N/A	N/A	Erosion of natural deposits
Calcium (ppm)	06/13/2023	20.7		N/A	N/A	Erosion of natural deposits
Chloride (ppm)	06/13/2023	172		250	---	Runoff from road de-icing, use of inorganic fertilizers, landfill leachates, septic tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas
Chloroform (ppb)	04/09/2024	0.52	0.52	N/A	N/A	Byproduct of drinking water disinfection
Color (C.U.)	10/13/2020	ND		15	---	Naturally occurring organic material
Copper	06/13/2023	.0255		1.0		Erosion of natural deposits
Hardness (ppm)	06/13/2023	67.6		N/A	N/A	Erosion of natural deposits
Magnesium (ppm)	06/13/2023	3.86		N/A	N/A	Erosion of natural deposits
Odor (T.O.N.)	06/13/2023	ND		3 TON	---	Erosion of natural deposits; Leaching from wood preservatives0
pH	Bi-weekly 2024	7.50 - 8.20	7.71	6.5-8.5	---	-----
Potassium (ppm)	06/13/2023	39		N/A	N/A	Erosion of natural deposits
Sodium[1] (ppm)	9/20/2022	95.8		----	20	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sulfate (ppm)	06/13/2023	16.7		250	---	Erosion of natural deposits

Total Dissolved Solids (TDS) (ppm)	06/13/2023	410		500	---	Erosion of natural deposits.
Turbidity	10/18/2022	.36		N/A	N/A	Soil runoff
Zinc	06/13/2023	.0055		5		Runoff / leaching from natural deposits; industrial wastes
Specific Conductance	06/13/2023	770		N/A	N/A	Mineral content of water

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. This year's Sodium numbers reflect the finished water after treatment. Years past we have used the raw water numbers pretreatment.

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.

Regulated Semi-volatile Organics – PFAS Compounds (ppt)						
PFAS Compound	Dates Collected	Highest Result Detected	Range Detected	MCL or MRDL	Violation	Possible Source of Contamination
PFOS * (ppt)	Monthly 01/2024 – 12/2024	ND	ND	N/A	N	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams
PFOA * (ppt)	Monthly 01/2024 – 12/2024	1.23	0.641 – 1.23	N/A	N	
PFHxS * (ppt)	Monthly 01/2024 – 12/2024	ND	ND	N/A	N	
PFNA * (ppt)	Monthly 01/2024 – 12/2024	ND	ND	N/A	N	
PFHpA * (ppt)	Monthly 01/2024 – 12/2024	1.90	0.98 – 1.90	N/A	N	
PFDA * (ppt)	Monthly 01/2024 – 12/2024	ND	ND	N/A	N	
Total PFAS 6 * (ppt)	Monthly 01/2024 – 12/2024	ND	ND	20	N	
Unregulated PFAS Compounds (ppt)						
PFAS Compound	Dates Collected	Highest Result Detected	Range Detected	MCL or MRDL	Violation	Possible Source of Contamination
PFBS* (ppt)	Monthly 01/2024 – 12/2024	ND	ND	N/A	N	Please See Above
PFHxA* (ppt)	Monthly 01/2024 – 12/2024	6.30	5.07 - 6.30	N/A	N	
PFTrDA * (ppt)	Monthly 01/2024 – 12/2024	0.629	0.629	N/A	N	

*PFOS = Perfluorooctane Sulfonic Acid
*PFOA = Perfluorooctanoic Acid
*PFHxS = Perfluorohexane Sulfonic Acid
*PFNA = Perfluorononanoic Acidqa
*PFHpA = Perfluorohepatanoic Acid
*PFDA = Perfluorodecanoic Acid
*PFAS 6 = Total of the above 6 compounds

*PFBS = Perfluorobutane Sulfonic Acid
*PFHxA = Perfluorohexanoic Acid
*PFTrDA = Perfluorotridecanoic Acid

PFAS Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers

6. COMPLIANCE WITH DRINKING WATER REGULATIONS

Does My Drinking Water Meet Current Health Standards?

With the Colleges commitment to clean and healthy drinking water, along with the oversight of the DEP, the College has an aggressive plan to do overall improvements to both treatment and distribution in our system over the coming years.