



To Our Customers,

During the past year, we have been pleased to welcome back our customers, reopening our doors for treatment plant tours, school groups, and more. We are proud of our infrastructure and the community it serves, from virtual tours of Fresh Pond (and its wildlife) with our Ranger Tim to providing the highest quality drinking water to your tap.

This report provides information on your drinking water supplied by the Cambridge Water Department, how it is treated, the quality of the water you receive, and how Cambridge water meets and exceeds all state and federal drinking water standards. It also contains key information on how you can learn more about our system – from source water to the service to your home.

I encourage you to contact the Water Department with questions, comments, or suggestions about any aspect of the City of Cambridge's drinking water.

Sincerely,
Sam Corda, Managing Director
Cambridge Water Department
617-349-4770



City of Cambridge Water Department – 2021

For 24-Hour Emergency Customer Service, Call 617-349-4770

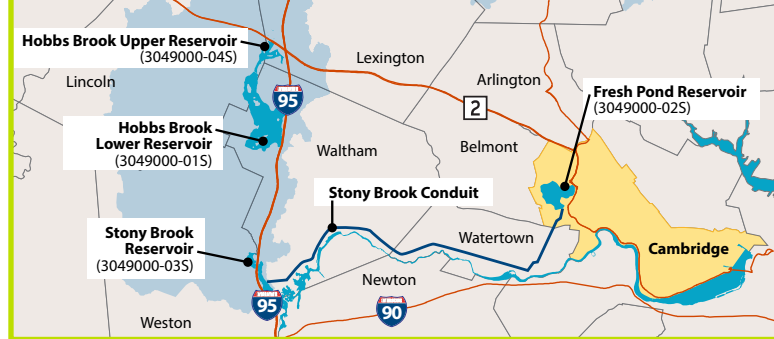
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Where Your Water Comes From

Reservoirs

The Cambridge Water System extends across four towns and includes four bodies of water. The Hobbs Brook Upper Reservoir flows into the Hobbs Brook Lower Reservoir and connects with the Stony Brook Reservoir. The water then flows to Fresh Pond Reservoir through an underground aqueduct. The Stony Brook Reservoir watershed extends from Weston, north into the Town of Lincoln. The watershed for the Hobbs Brook Reservoirs includes areas of Waltham, Lexington, and Lincoln. The watershed for Fresh Pond Reservoir is completely within the City of Cambridge. The combined capacity of the Hobbs Brook and Stony Brook reservoir system is 3.1 billion gallons; an additional 1.3 billion gallons of water is stored in Fresh Pond Reservoir. Our water supply is backed up by interconnections to the Massachusetts Water Resources Authority (MWRA) system. For a more detailed map of our water sources and their protection areas, please visit cambridgema.gov/water.



The Cambridge Water Department has taken the following actions to minimize contamination threats to our water supply:

- ◆ Work cooperatively with watershed towns on emergency response and stormwater management
- ◆ Placed spill kits at strategic points within the watershed
- ◆ Actively monitor source water quality throughout the watersheds, using the data to target source protection
- ◆ Work cooperatively with businesses in the watersheds to encourage source protection
- ◆ Adopted the Fresh Pond Master Plan, which includes long-term protection measures for Fresh Pond Reservoir
- ◆ Implemented storm drainage modifications to divert street runoff away from Fresh Pond Reservoir
- ◆ Dedicated staff resources to inspections, public education, and coordination of source protection efforts

Outlined in a MassDEP-approved Surface Water Supply Protection Plan (2011), the Watershed Division of the Cambridge Water Department updated its comprehensive Source Water Protection Program. Check out: cambridgema.gov/Water/watershedmanagementdivision/sourcewaterprotectionprogram.

To ensure a supply of high-quality water, the major components of the program include:

1. **Extensive monitoring** – sampling and analyzing water chemistry and microbiology
2. **Hazardous materials emergency response planning** – reducing the potential for contamination in the watershed
3. **Partnership development** – relationship-building with other parties in the watershed with common goals
4. **Proactive site review and monitoring** – minimizing potential impacts on the watershed from construction
5. **Stormwater management** – ensuring that Best Management Practices are implemented
6. **Community outreach** – providing public relations and education

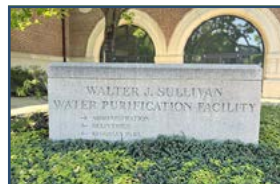


Watershed Protection

As part of our ongoing commitment to protecting the water supply, we participated with the Massachusetts Department of Environmental Protection (MassDEP) in preparing a Source Water Assessment Program (SWAP) Report, completed in 2003. The SWAP Report assesses the susceptibility of our public water supply and notes the key land use and protection issues, including Zone A Land Uses, Residential Land Uses, Transportation Corridors, Hazardous Material Storage and Use, and Presence of Oil or Hazardous Materials Contamination Sites.

A copy of the Cambridge SWAP Report can be found on the MassDEP website at mass.gov/doc/cambridge-water-department-swap-report/download or at the Cambridge Water Department.

Because of the developed nature and types of land uses within the Cambridge watershed, our source waters are considered as having “high” susceptibility to contamination. Susceptibility is a measure of a water supply’s potential to become contaminated due to land uses and activities within its recharge (watershed) area. If a source is susceptible to contamination, it does not necessarily mean the source has poor water quality.



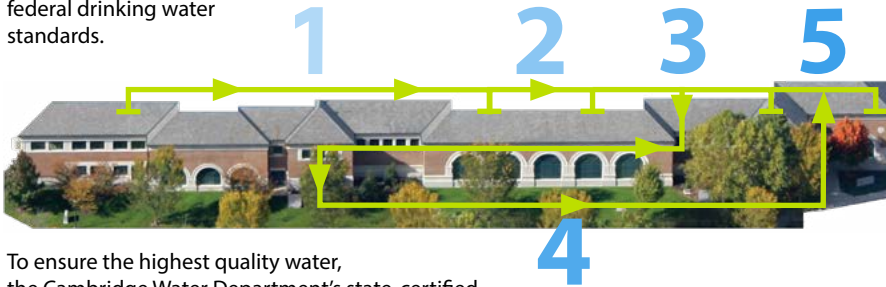
For questions about our source water and our protection efforts, please contact Watershed Manager **David Kaplan** at dkaplan@cambridgema.gov or 617-349-4799.



OUR DOORS ARE OPEN

How Is Your Water Purified?

The source waters of the Cambridge reservoir system undergo extensive treatment at the Walter J. Sullivan Water Purification Facility (WPF) at Fresh Pond Reservation before drinking water is delivered to your home or business. The water is treated to exceed all state and federal drinking water standards.



To ensure the highest quality water, the Cambridge Water Department's state-certified laboratory continuously monitors the effectiveness of the treatment process and makes adjustments as needed.

Water Treatment Plant Tours

You are invited to join us in 2022! We are proud to share our beautiful treatment facility with you and are excited to resume in-person tours. **To learn more, please visit:** cambridgema.gov/Water/freshpondreservation/publicprogramming



1 Pretreatment: The first steps in the treatment process combine preoxidation with ozone, coagulation, and dissolved air flotation (DAF) to remove manganese, natural color, sediment and particles, algae, protozoa, viruses, and bacteria.

2 Ozone: Fine bubbles of ozone are dissolved into the water to kill bacteria, viruses, and protozoa.

3 Filtration: The water passes through granular activated carbon (GAC) to remove organic compounds. Filtration also acts as a "polishing step" to remove additional particles, color, and protozoa.

4 Disinfection: Chlorine is used to provide the second step of disinfection for redundancy in the overall process, and monochloramine is added to maintain a disinfectant residual throughout the distribution system.

5 Post Treatment: The pH of the water is adjusted for corrosion control and fluoride is added for dental health.



School Tours

Some of our favorite tours occur during the school year. We introduce young, curious minds to the safe drinking water process and to the professionals involved in making it happen.

Find out more about Cambridge Water Department's history, personnel, water quality, and services we offer 24/7 at: cambridgema.gov/water



Pick Up a Free Lead and Copper Water Sampling Kit

We have tap water sampling kits available in the lobby of the water treatment plant at the self-service kiosk.

To learn more, call 617-349-4770 or visit cambridgema.gov/Water/wateroperationsdivision/testmywater



Fresh Pond Reservation Rangers

The Ranger Station is open with restrooms, maps, and information. **Come visit us at:**

250 Fresh Pond Parkway
(under the clock tower facing the reservoir)
7 days a week, dawn to dusk

Learn with Ranger Tim about turtles, hornets, frogs, and more! Check at the Ranger Station for in-person opportunities. Watch Ranger Tim's videos on YouTube:

youtube.com/channel/UCC8v1AZAWIbDhbvyWsdTXXg/videos

Introducing: Ranger Tim!



A Note from Ranger Tim

Although the human world may have seen disruption during the pandemic, the natural world continued on without missing a beat. 2021 was a busy year for wildlife! Common snapping turtles laid eggs along the shoreline of Little Fresh Pond. Our resident pair of great-horned owls successfully raised an owlet in front of onlookers in our pine grove, and the white-tailed deer gave birth and reared young in the Lusitania Meadow. All the while our ranger staff were out on the property sharing these experiences with others and making sure that these animals feel safe in their homes.

Fresh Pond is a classic case of "if you build it, they will come." Areas aren't restored and

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Important Information from EPA & MassDEP about Sources of Drinking Water and Drinking Water Contaminants

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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, 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 may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants include synthetic and volatile organic chemicals that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

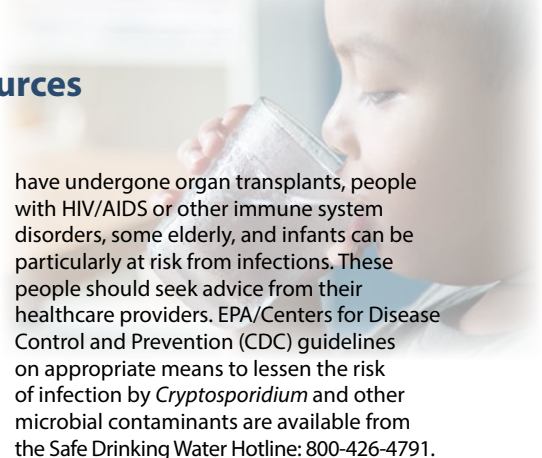
In order to ensure that tap water is safe to drink, MassDEP and the U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination.

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 at 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 infants can be particularly at risk from infections. These people should seek advice from their healthcare providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline: 800-426-4791.

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. The Cambridge Water Department 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 for free. 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 epa.gov/safewater/lead.


Fresh Pond Reservation Rangers

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protected explicitly for wildlife; rather, we have wildlife because we have restored and protected areas for the greater health of our drinking water supply. Along with the return of white-tailed deer, we've seen muskrats come back in areas where cattails have been planted. We look forward to what other native animals make their long-awaited return as we move ever-closer to fulfilling the vision of our Fresh Pond Master Plan.

As wildlife makes their return to Fresh Pond, 2021 also saw the return of public education activities. In September we had our largest monarch butterfly release celebration to



date! Over 100 monarchs were released into the wild above the heads of amazed onlookers, and our propagation of native milkweed varieties has increased at a steady rate. We look forward to our next raise-and-release and hope to continue spreading the word about our native ecosystems. In addition to events such as this, the pandemic also helped us improve our digital educational footprint with our nature series YouTube channel "Fresh Pond Reservation." You can also stay connected with us and learn about our events and natural happenings on our Facebook page at facebook.com/freshpondreservation.

Ranger Tim



Ranger Tim holds a great horned owl (far left) and catches a snapping turtle on camera (at right).

Want to learn more from Ranger Tim about muskrats, hornets, frogs, and more? Search YouTube for "Ranger Tim."

Compound		Units	Highest Level Found	Range of Detections (low-high)	Highest Level Allowed (MCL or MRDL)	Ideal Goal (MCLG or MRDLG)	Violation	How it gets in the water
Regulated Compounds	Barium	ppm	0.046	0.046	2	2	NO	Erosion of natural deposits
	Chlorine (as monochloramine)	ppm	2.3 ^[1]	0.93 - 3.1 ^[2]	4	4	NO	Water disinfectant
	Copper ^[3]	ppb	40	1 - 53 (No homes exceeded the AL)	AL = 1,300	1,300	NO	Corrosion of household plumbing systems
	Fluoride	ppm	0.83	0.58 - 0.83	4	4	NO	Added to water to promote strong teeth
	Lead ^[3]	ppb	4	0 - 12 (No homes exceeded the AL)	AL = 15	0	NO	Corrosion of household plumbing systems
	Nitrate as Nitrogen	ppm	0.70	0.36 - 0.70	10	10	NO	Naturally present in the environment
	Nitrite as Nitrogen	ppb	14	0.9 - 14	1,000	1,000	NO	Runoff from fertilizer use
	PFAS6 ^[4]	ppt	19	11.3 - 20.7	20	N/A	NO	Human-made chemicals. #Full details below
	Total Haloacetic Acids	ppb	12 ^[6]	3.6 - 16.9 ^[2]	60 ^[6]	0	NO	Byproduct of water disinfection
	Total Trihalomethanes	ppb	17 ^[6]	7.6 - 40.8 ^[2]	80 ^[6]	0	NO	Byproduct of water disinfection
Turbidity ^[7]	NTU	0.16	0.06 - 0.16	TT = 0.3 NTU	N/A	NO	Suspended matter from soil runoff	
Compound		Units	Highest Level Found	Range of Detections (low-high)	Highest Guidance Level (SMCL or ORSG)	Ideal Goal (MCLG or MRDLG)	Violation	How it gets in the water
Secondary/Guidance Compounds	Aluminum	ppb	23	No range, 1 sample required	200	-	NO	Erosion of natural mineral deposits
	Calcium	ppm	23	No range, 1 sample required	-	-	NO	Naturally occurring minerals
	Chloride	ppm	198	No range, 1 sample required	250	-	NO	Erosion of natural mineral deposits and road salting activities
	Chloroform	ppb	12	0.95 - 12	70	-	NO	Byproduct of water disinfection
	Magnesium	ppm	5.1	No range, 1 sample required	-	-	NO	Naturally occurring minerals
	Sodium	ppm	110	No range, 1 sample required	20 ^[8]	-	NO	Road salt
	Sulfate	ppm	30	No range, 1 sample required	250	-	NO	Erosion of natural mineral deposits
	Total Dissolved Solids	ppm	382	No range, 1 sample required	500	-	NO	Naturally occurring minerals
Unregulated Contaminant		Units	Average Detected (Range Detected, low-high)		Possible Sources			
Perfluorohexanesulfonic acid (PFHxA)		ppt	3.5		# Human-made chemicals. Used as surfactants to make products stain- or water-resistant, in firefighting foam, for industrial purposes, and as a pesticide. Used in fluoropolymers (such as Teflon), cosmetics, greases and lubricants, paints, adhesives, and photographic films.			
Perfluorobutanesulfonic acid (PFBS)			2.1					

Notes

- [1] Highest level detected is based on running annual average of monthly samples.
- [2] Highest value in range is based on individual samples, rather than averages.
- [3] The Action Level (AL) and the highest level found are based on the 90th percentile of the samples.
- [4] The highest level detected is based on a quarterly average of monthly samples. The range is based on individual monthly results.

Terms & Abbreviations

90th Percentile – Nine out of every 10 homes were at or below this level.

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

MCL: Maximum Contaminant Level – 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.

MCLG: Maximum Contaminant Level Goal – 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.

MRDL: Maximum Residual Disinfectant Level – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: Not Available – An ideal goal has not been established by EPA or MassDEP for this compound.

- [5] No other volatile organic compounds (VOCs) were detected other than trihalomethanes.
- [6] Highest level allowed (MCL) for this substance is based on the running annual average of four quarterly samples.
- [7] Turbidity is a measure of treatment performance and is regulated as a treatment technique (TT). 100% of samples met the TT requirement.
- [8] An 8-ounce glass of Cambridge water contains approximately 27 milligrams of sodium, well within the FDA's "very low sodium" category.

ND: Not Detected

NTU: Nephelometric Turbidity Unit – A measure of the turbidity (or clarity) of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

ORSG: Office of Research and Standards Guideline – Guidance values developed by MassDEP ORS in absence of any other federal standards or guidance.

pCi/L: Picocuries per liter – A measure of radiation.

ppb: Parts per Billion or micrograms per liter – (µg/L)

ppm: Parts per Million or milligrams per liter – (mg/L)

ppt: Parts per Trillion or nanograms per liter – (ng/L)

SMCL: Secondary Maximum Contaminant Level – Concentration limit for a contaminant which may have aesthetic effects such as taste, odor, or staining.

TT: Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water. Turbidity is a measure of treatment performance and is regulated as a treatment technique. 95% of our turbidity readings each month must be below 0.3 NTU.

Water Quality: PFAS

The Cambridge Water Department understands the emerging concerns about contaminants known as PFAS (Per- and Polyfluoroalkyl Substances). In October 2020, the MassDEP enacted a standard of 20 parts per trillion (ppt) for the sum of the following six PFAS (PFAS6) compounds: PFOS (perfluorooctanesulfonic acid), PFOA (perfluorooctanoic acid), PFNA (perfluorononanoic acid), PFHxS (perfluorohexanesulfonic acid), PFHpA (perfluoroheptanoic acid), and PFDA (perfluorodecanoic acid). This maximum contaminant level (MCL) of 20 ppt is based on a quarterly average of monthly samples. A "part per trillion" is analogous to a grain of sand in an Olympic-sized swimming pool. Cambridge has not exceeded the new standard since these regulations became effective; however, to provide the safest water for our customers, we are in the process of upgrading the granular activated carbon (GAC) filter media that we use in our treatment plant to remove PFAS by 50% or more.



Cambridge Water Department
250 Fresh Pond Parkway
Cambridge, MA 02138

Presorted
Standard
US Postage
Paid
Boston, MA
Permit No. 215



ECRWSS
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Cambridge, MA

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 Follow us:
twitter.com/CambWaterDept

 or on the web at cambridgema.gov/water

Water Conservation and Composting – A Winning Combination



Composting may not seem like an obvious way to conserve water, but every little change makes a big difference. Scrape food into the bin rather than prerinsing. Energy Star-qualified dishwashers and today's detergents are designed to do the cleaning, so you don't have to. If your dirty dishes sit overnight, use your dishwasher's rinse feature. It uses a fraction of the water needed to hand rinse. No need to use the garbage disposal either!

To learn more about water conservation, visit our water conservation page at:
cambridgema.gov/Water/administration/droughtstatusandwaterconservation/waterconservation

Protect Your Drinking Water at Home!

A "cross connection" is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For example, to spray fertilizer on your lawn, you hook your hose up to the sprayer that contains the fertilizer.

If the water pressure drops (say, because of fire hydrant use in the City) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. You can find inexpensive hose bibb vacuum breakers at your local hardware store and easily install them.



For additional information on cross connections and on the status of Cambridge's cross-connection program, please contact us by phone, email, or website:

Phone: 617-349-7750
Email: backflow@cambridgema.gov
Web: cambridgema.gov/Water/administration/crossconnectioncontrol

This report contains very important information about your drinking water. Please translate it, or speak with someone who understands it.

Este informe contiene información muy importante acerca de su agua potable. Pídale a alguien que traduzca esta información a usted o hablar con alguien que entienda esta información.

本报告含有关于您所在社区的水质的重要信息。请您找人翻译一下或请能看懂这份报告的朋友给您解释一下。

Ce rapport contient des renseignements très importants sur votre eau potable. Demander à quelqu'un pour traduire cette information à vous ou à parler avec quelqu'un qui comprend cette information.

If you have any additional questions about your water supply, please contact Julie Greenwood-Torelli, Director of Water Operation, at 617-349-4773