



2022 Annual Water System Report

HWW Water Quality Standards in 2022

The Holyoke Water Works (HWW) is pleased to present its 2022 Annual Water System Report. The report is designed to inform you about the high quality water and services that we deliver each and every day. The HWW is committed to providing a safe and dependable drinking water supply. We want you to understand our continuing effort to protect and preserve our water resources. In 2022, our drinking water met all Federal and State drinking water standards. Water quality results are listed on pages 3 and 4 of this report. If you have any questions about this report or issues concerning water quality, please contact Matthew Smith, Source of Supply and Treatment Superintendent at (413) 532-6778. For questions concerning billing or other matters related to HWW, please call the main office at (413) 536-0442. Additional information can be obtained by attending the Holyoke Board of Water Commissioners regularly scheduled monthly public meetings. Meeting dates, times, and locations are posted on the bulletin board at the City Hall, 536 Dwight Street, Holyoke and on the City of Holyoke's website (www.holyoke.org). We want you to be informed about HWW and our commitment to ensuring the quality of your drinking water.

MassDEP Renews Holyoke's Filtration Waiver Confirming Holyoke's Commitment to Delivering High Quality Water

Holyoke's drinking water comes primarily from the Tighe-Carmody Reservoir in Southampton via a 6.6 mile long Pre-stressed Concrete Cylinder Pipe constructed in 1997 to the Water Treatment Facility located in Holyoke. The water supply is augmented by the McLean Reservoir by means of a transfer pump station located in the watershed of the Ashley Reservoir. The "blending" of these two water sources helps ensure the highest quality of water available throughout the year. Holyoke's water is treated at the Water Treatment Facility located at 600 Westfield Road adjacent to the McLean Reservoir.

In 2022, the Massachusetts Department of Environmental Protection (MassDEP) issued HWW a waiver from filtration of the surface water sources which are subject to annual review. HWW continued to meet the criteria for avoiding filtration of the Tighe-Carmody and McLean Reservoirs. A method used to accomplish this goal is the blending of sources to reduce the formation of trihalomethanes (THMs) and haloacetic acids (HAAs), which are regulated under the Disinfection Byproduct Rule. To meet this objective, HWW blended 160,338,000 gallons of water or 9.57% of the total annual volume from the McLean Reservoir to satisfy the City's annual water supply needs of 1,675,843,800 gallons. Utilizing these practices to date, Holyoke and MWRA (Quabbin Reservoir) are the only two remaining unfiltered water sources in Massachusetts.

HWW Completes Construction of New 500,000 gallon Water Storage Tank for West Holyoke Residents

HWW continued its commitment to consumers by increasing the water supply capacity of the West Holyoke Water System by constructing a second water storage tank.

In 2022, HWW contracted with DN Tanks LLC to construct a new 500,000 reinforced concrete water storage tank along with additional water piping and site work. The new water tank will not only provide additional water capacity and improve water circulation with the existing steel water storage tank, but also reduce operational costs associated with annual tank maintenance.

In conjunction with construction of the new tank, the interior and exterior of the existing 500,000 gallon steel storage tank was media-blasted and recoated and the exterior of the 1,200,000 gallon West Heights concrete storage tank was cosmetically repaired and recoated. The project was initiated in late 2021 and completed in the fall 2022 at a total cost of \$3,870,212.



New Concrete Water Storage Tank to Augment Existing Steel Tank

HWW Contracts Phase 2B Water Main Replacement Project

HWW continued its commitment to its customers by replacing sections of the water distribution system with new, higher capacity water mains for the purpose of enhancing fire protection, system reliability and improving water quality.

In 2022, HWW contracted with Jack Goncalves & Sons, Inc. for the Phase 2B Water Main Replacement Project to upgrade the water system in Hampden, Nonotuck, Portland and Magnolia Streets along with Blaine Avenue as the first of two parts for the replacement project. The second part of the project will include Dwight Street along with Ivy Avenue. These improvements were authorized by the Holyoke City Council under the System-Wide Capital Improvement Projects to address deficiencies identified in the municipal water system. The Phase 2B project was designed to significantly improve fire protection, system reliability and water quality in these areas of the City. The Phase 2B project also received funding in part from the City of Holyoke through the American Rescue Plan Act (ARPA) Program in the amount of \$2,000,000 to offset some of the project cost. The work was initiated in the summer of 2022 and scheduled for completion in the fall of 2023 at an estimated project cost of \$4,532,162.



Larger Water Mains to Improve Fire Protection

Holyoke Community College Upgrades Campus Water System



New Master Meter will service the Campus Water System

In 2022, HWW assisted in the design and construction oversight of the Holyoke Community College (HCC) Critical Infrastructure Upgrades Project funded by the Commonwealth of Massachusetts, Division of Capital Asset Management and Maintenance (DCAMM). The project, estimated at a cost of \$10,600,000, includes the replacement of over 7,500 feet of new 8" water main, increased fire protection in and around the campus ring road, and two new water service connections off of Homestead Avenue. The general contractor for the project is BOND Building Construction, Inc. and the subcontractors for the water work are T&M and BG Mechanical Contractors. Once completed, the work will provide a significant upgrade to the private water system, increase system reliability and improve fire protection to the HCC facilities and the grounds. The work is expected to be completed by fall of 2023.

Watershed Resource Protection Plan

The Watershed Resource Protection Plan (WRPP) demonstrates our continuing effort to ensure a safe drinking water supply. The HWW uses the WRPP as a tool to: 1) identify potential threats to the drinking water supply sources; 2) shield the watersheds from identified threats; and 3) develop a plan to protect water quality from future threats.

In 2022, HWW continued its partnership with the Massachusetts Environmental Police and the Hampden County Sheriff's Department to patrol the drinking water supplies to control illegal activities and issue fines and/or citations which are documented and reported to MassDEP. A total of 40 citations were issued along with 8 verbal warnings for violations of prohibited activities. In addition to source protection, HWW updated its WRPP to maintain compliance with MassDEP, Massachusetts Department of Conservation & Recreation (DCR), and the department's Forest Management Program (FMP). HWW contracts with Wigmore Forest Resource Management out of Williamsburg, MA, to manage annual selective timber harvests and to ensure the FMP meets current compliance regulations.



McLean Reservoir restricted from Public Access

If you have any questions about the WRPP or FMP and want to learn more about what you can do to help protect the watershed of your drinking water supply, please contact Matthew Smith, Reservoir Division Superintendent at (413) 532-6778 or visit MADEP's website at <http://www.state.ma.us/dep/> or the Massachusetts Drinking Water Education Partnership website at <http://www.madwep.org>.

Cross Connection Inspection/Backflow Prevention Program

A cross connection is an actual or potential connection between a drinking water distribution system pipe and any waste pipe, soil pipe, sewer, drain, or other non-potable sources. The purpose of the program is to protect the public water supply from potential contamination by non-potable sources which could backflow into the water system via a cross connection.

In 2022, HWW contracted with Water Safety Services for the testing of approximately 712 cross connection devices. Over 1,060 tests were conducted in accordance with MassDEP regulations. Of the 712 devices tested, 9 new devices were installed and added to the program and 18 existing devices failed and were reinstalled after repairs were made. Retesting was performed to ensure the protection of the public's drinking water supply. As an adopted policy, HWW continues to provide commercial water users with hose bibb backflow preventers as necessary to help ensure the highest protection of Holyoke's drinking water.

Currently, HWW is not required to survey residential properties for cross connections, although the potential for cross connections can exist between outside faucets, lawn irrigation systems, swimming pools, and hot tubs. If you have any questions or concerns about the potential for cross connections in your home, please contact John Lachat, Cross Connection Coordinator at (413) 536-3392. For more information regarding cross connections or to obtain a copy of the regulations governing cross connections (310 CMR 22.22), please contact the MassDEP at its Western Region Office at (413) 784-1100.

Lead and Copper

Due to continue compliance with Lead and Copper Rule, HWW was not required to collect lead and copper samples in 2022. The lead and copper results presented below are based on 30 customer taps in the distribution system in July 2020. The basis for lead and copper compliance is the 90th percentile value, which is the highest level found in 9 out of every 10 homes sampled.

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. Holyoke Water Works 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>.

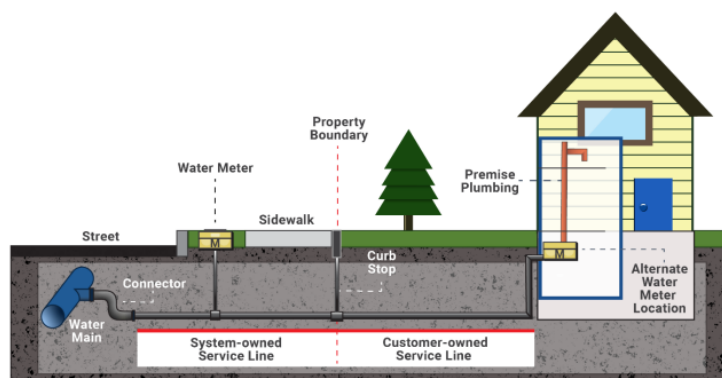
Lead and Copper Contaminant (Units)	90th Percentile	Action Level (AL)	# Sites Above AL	Possible Source of Contamination
Copper (ppm)	0.39	1.3	0	Corrosion of household plumbing systems
Lead (ppb)	7.8	15	3	Corrosion of household plumbing systems

Service Line Inventory

The US EPA recently published revisions to the Lead and Copper Rule that are intended to better protect children and communities from lead exposure risks and support efforts to remove lead from drinking water. The revisions require all Public Water Systems to complete an inventory of all service lines connected to their distribution system. The inventory must include the pipe material and other information for both the system-owned and customer-owned portions of the service line between the water main and a structure.

Where more where information is needed about a service line, customers may be sent a survey to identify their service material or be sent a request to conduct a service line basement inspection. Public outreach and education materials will be distributed as needed in the coming year.

https://www.epa.gov/system/files/documents/2022-08/Inventory%20Guidance_August%202022_508%20compliant.pdf



Example of Service Line Ownership Distinction between Water System and Customer

2022 Water Quality Testing Results

The Holyoke Water Works (PWS ID# 1137000) conducts over 6,000 individual tests every year on your drinking water to ensure that it meets all Federal and State standards. The table below shows the water quality monitoring results from January 1, 2022–December 31, 2022. The contaminants listed are the **only** contaminants that were detected in your drinking water. Drinking water, including bottled water, may be reasonably 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791. Definitions of the terms and abbreviations used in the tables are given below.

MCL: *Maximum Contaminant Level*—the highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology. MCLs are enforceable standards.

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 and are non-enforceable public health goals.

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 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.

TT: *Treatment Technique*—a required process intended to reduce the level of a contaminant in drinking water.

AL: *Action Level*—the concentration of a contaminant which, if exceeded, triggers treatment or other requirements.

NTU: *nephelemetric turbidity unit*—a measure of water clarity. Turbidity greater than 5 NTU is just noticeable to the average person.

ppm: *parts per million*—corresponds to one minute in two years or 1 cent in \$10,000. 1 ppm = 1 mg/L

ppb: *parts per billion*—corresponds to one minute in 2,000 years or 1 cent in \$10,000,000. 1 ppb = 1 ug/L

SMCL: *Secondary Maximum Contaminant Level*—standards developed to protect the aesthetic qualities of drinking water; not health based.

OSRG: *Office of Research and Standards Guideline*—chemical concentration in drinking water, at or below which adverse health effects are unlikely to occur after lifetime exposure. If exceeded, it serves as an indicator of the potential need for further action.

Regulated Contaminants Contaminant (Units)	Highest Level Detected	Range Detected	MCL/M RDL	MCLG/MR DLG	Violation (Yes/No)	Possible Source of Contamination
Turbidity (NTU)	1.9 ⁽³⁾	0.20—1.9	TT	N/A	No	Soil runoff
Chlorine (ppm)	2.75	1.7—2.75	4	4	No	Water additive used to control microbes
Fluoride (ppm) ⁽¹⁾	0.79	0.50—0.79	4	4	No	Water additive that promotes strong teeth
Nitrate (ppm)	0.052	0.001—0.052	10	10	No	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Total Trihalomethanes (ppb)	47.4 ⁽²⁾	19.2—50.9	80	N/A	No	By-product of drinking water chlorination
Haloacetic Acids (ppb)	57.4 ⁽²⁾	1.1—58.6	60	N/A	No	By-product of drinking water chlorination

⁽¹⁾ Fluoride is added to help prevent tooth decay and cavities. In 2015, the Massachusetts Department of Public Health updated their recommendations for optimal water fluoridation from a range of 0.7 to 1.2 ppm to a standard of 0.7 ppm. In July 2015, HWW began targeting a fluoride dose of 0.7 ppm.

⁽²⁾ HWW is required to measure total trihalomethanes and haloacetic acids at four distribution system sites, and compliance with the MCLs is based on quarterly running annual averages at each of the four sites. The highest quarterly running annual averages for the year are reported here. The range presents the high and low for samples at individual sites over the course of the year.

⁽³⁾ Raw water NTU reached 1.9 NTU on April 21, 2022 because of a water main break. Following this event, HWW corresponded with MassDEP, and all regulations and protocols were followed in accordance with requirements.

Unregulated Contaminants Contaminant (Units)	Highest Level Detected	Range Detected	SMCL	OSRG	Possible Source of Contamination
Chlorodibromomethane (ppm)	1.6	ND—1.6	N/A	N/A	By-products of drinking water chlorination
Dichlorobromomethane (ppm)	14.1	0.05—14.1	N/A	N/A	By-products of drinking water chlorination
Sodium (ppm)	16.0	14.2—16.0	N/A	20	Natural sources; runoff from road salt
Sulfate (ppm)	<5.0	<5.0	250	N/A	Natural sources

Potential Contaminants

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 through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and picks up substances resulting from the presence of animals or from human activity. The following is a list of potential contaminants that may be present in source water:

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 by-products 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 EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Massachusetts Department of Public Health and the Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Special Concerns

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 health care 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 Act Hotline (800-426-4791).

* Español—Este informe contiene información importante sobre su agua potable. Si desea una copia en español contacte por favor el numero (413) 532-6778 o visite nuestras instalaciones depuradoras en 600 Westfield Road.

* French—Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

If you have any questions about this report or issues concerning water quality, please contact Matthew Smith, Source of Supply and Treatment Superintendent at (413) 532-6778. Questions concerning billing or other matters related to HWW, please call the main office at (413) 536-0442.



Water Treatment Facility

600 Westfield Road

Holyoke, MA 0040

413-532-6778