

# Dudley Water Department

## 2021 Consumer Awareness Report

Public Water Supply ID # 2080000

We are pleased to present to you, our customers, the Dudley Water Department's 2021 Consumer Awareness Report. The report provides our 2021 testing results, reminders about water conservation and source protection, and an overview of our efforts in 2021 to deliver high-quality drinking water to more than 8,000 people in the town. The Dudley Board of Water and Sewer Commissioners meets the first Wednesday of each month at 6:30 p.m. at the Dudley Municipal Complex, 71 West Main Street, Room 315. The Water Department meetings are open to the public and all are invited to attend. If you have an item to be brought before the Board, please call 508-949-8007 the Thursday before the meeting to be placed on the agenda.

### Your Drinking Water Sources

The Town of Dudley's water system includes three ground water supplies and pumping stations, two water storage tanks and 35 miles of water main. Presently three pumping stations have backup generators to supply water to customers in the event of power loss. The three groundwater supplies consist of two gravel packed wells and one gravel packed well field consisting of three blended sources.

Station 1: 2080000-01G West Main Street - gravel well field  
Station 3: 2080000-03G Schofield Avenue - gravel packed well  
Station 6: 2080000-06G New Boston Road - gravel packed well

The two storage facilities hold a combined 1.5 million gallons of water for daily use, emergencies and fire protection. During 2021, the Water Department supplied approximately 201,000,000 gallons of water, with a daily average of approximately 550,684 gallons. The Water Department provides disinfection to the water by adding sodium hypochlorite, a common drinking water treatment practice, at all three of the sources following the approval by the Massachusetts Department of Environmental Protection (MassDEP).

### Contaminants and Health Risks

In order to ensure that tap water is safe to drink, the US Environmental Protection Agency (EPA) and 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 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 (1-800-426-4791).

### Contaminants in Source Water

The sources of drinking water (both tap 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, or farming.
- **Pesticides and Herbicides** - which 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.

**Other Important Health Information**

**Lead:** If present, elevated levels of lead can cause serious health problems, especially for people who are pregnant and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Dudley 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. 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>.

**Sodium:** Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, who drink water containing sodium, should be aware of levels where exposures are being carefully controlled.

**Per- and Polyfluoroalkyl Substances (PFAS):** Some people who drink water containing these PFAS in excess of the MMCL 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.

**Immune-compromised Persons:** Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 about drinking water. EPA/Center for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infections by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**Water Quality Monitoring**

The Federal and State governments require regular testing of all public water supplies. Monitoring for bacteria is done once per month. Tests for other contaminants are conducted less frequently, according to the sample schedule provided by MassDEP. The Town of Dudley Water Department complies with all these mandates to ensure the highest quality of drinking water possible.

**Important Definitions** – understanding this report

- **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.
- **Massachusetts Maximum Contaminant Level (MMCL):** The highest level of a contaminant that is allowed in Massachusetts drinking water. MMCLs 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) allowed in drinking water. There is convincing evidence that a disinfectant is necessary for control of microbial contaminants.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** 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.
- **Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirement which a water system must follow.
- **90th Percentile:** The level that determines lead and copper compliance; 9 out of 10 homes were at or below this level.
- **Units of Measurement:**
  - 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 measurement of radioactivity
  - ND - Not detected, the contaminant value measured was not above the detection level of the test method
- **Unregulated Contaminants:** Contaminants for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether further 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.

- **Level 1 Assessment:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Massachusetts Office of Research and Standards Guideline (ORSG):** This is the concentration of a chemical in drinking water, at or below which, adverse non-cancer health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

**Compliance in 2021**

On October 2, 2020, Massachusetts Department of Environmental Protection (MassDEP) promulgated a new drinking water regulation and Massachusetts Maximum Contaminant Level (MMCL) of 20 nanograms per liter (ng/L) for the sum of six per- and polyfluoroalkyl substances (a.k.a. PFAS6). Testing of the Dudley Water System in 2021 confirmed elevated levels of PFAS6 in the drinking water samples collected from Well 03G. The Dudley Water Department is currently blending the water from Well 03G with other sources to reduce the concentrations present in the water system, and we are investigating options for treating the water to remove PFAS6 compounds at the source. Even though some of PFAS6 levels detected were above the MMCL, a PFAS6 violation has not occurred, since violations are based on a quarterly average. In addition, the samples that contained elevated PFAS6 concentrations were collected prior to blending. We are required to provide you with these materials to make you aware of the elevated levels so you can make informed decisions about your drinking water while we continue to monitor the water supply. More information on the PFAS6 levels in our drinking water is available at our website: <https://dudleyma.gov/departments/water-and-sewer/>

**2021 CCR Water Quality Data Tables**

The following water quality test results were from water quality sampling performed during 2021 or during the most recent monitoring period for each contaminant group, as required by MassDEP. Only the detected contaminants are shown below.

Lead and Copper	Dates Collected	90 <sup>TH</sup> Percentile	Action Level (AL)	MCLG	Exceeds AL (Y/N)	# of Sites Sampled	# of Sites above AL	Possible Source of Contamination
Lead (ppb)	May & Oct 2021	1.7	15	0	N	40	0	Corrosion of household plumbing systems
Copper (ppm)	May & Oct 2021	0.26	1.3	0	N	40	0	Corrosion of household plumbing systems

Bacteria	Highest # of Positive Samples in a Month	MCL	MCLG	Violation (Y/N)	Possible Source
Total Coliform and E. coli	0	0	0	N	Human and animal fecal wastes

	Date Collected	Highest Detect	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Source
<b>Organic Contaminants</b>							
Per- and Polyfluoroalkyl Substances (PFAS6) (ppt)	Monthly	22.5	10.1 – 22.5	20*	20	No*	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.

Notes: \* MCL is a Massachusetts-specific contaminant level and is based on a quarterly average.  
 \* PFAS6 compounds are regulated in Massachusetts under a Massachusetts Maximum Contaminant Level

	Date Collected	Highest Detect	Range Detected	MCL	MCLG	Violation (Y/N)	Possible Source
<b>Inorganic Contaminants</b>							
Barium (ppm)	04/07/21 04/29/21	0.028	0.018–0.028	2	2	N	Erosion of natural deposits
Nitrate (ppm)	04/29/21	1.8	0.98 – 1.8	10	10	N	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits
Perchlorate (ppb)	07/19/21	0.19	0.19	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents

Disinfectants and Disinfection By- Products	Date Collected	Highest Level Detected	Range Detected	MCL or MRDL	Violation (Y/N)	Possible Source
Total Trihalomethanes (TTHM) (ppb)	09/29/2021	5.6	--	80	N	Byproduct of drinking water chlorination for disinfection
Haloacetic Acids (HAA5) (ppb)	09/29/2021	3.6	--	60	N	Byproduct of drinking water chlorination for disinfection
Chlorine (ppm)	Monthly in 2021	0.77	0.30 – 0.77	4	N	Water Additive used to control microorganisms

Unregulated and Secondary Contaminants	Date Collected	Highest Level Detected	Average Detected	SMCL	ORSG	Possible Source
Manganese (ppm)	04/07/2021 04/29/2021	0.021	0.0175	0.05	0.3	Erosion of natural deposits
Perfluorobutanessulfonic Acid-PFBS (ppt)	Monthly	7.99	4.58	-	20	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.
Perfluorodecanoic Acid-PFDA (ppt)	Monthly	0.599	0.598	-	20	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.
Perfluoroheptanoic Acid-PFHPA (ppt)	Monthly	2.78	1.80	-	20	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.

*Unregulated and Secondary Contaminants.... Continued*

Perfluorohexanesulfonic Acid-PFHXS (ppt)	Monthly	2.82	2.05	-	20	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.
<b>Unregulated and Secondary Contaminants (continued)</b>	<b>Date Collected</b>	<b>Highest Level Detected</b>	<b>Average Detected</b>	<b>SMCL</b>	<b>ORSG</b>	<b>Possible Source</b>
Perfluorohexanoic Acid – PFHXA (ppt)	Monthly	3.45	2.08	-	20	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.
Perfluorononanoic Acid – PFNA (ppt)	Monthly	1.41	1.12	-	20	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.
Sulfate (ppm)	05/14/2018	10	8.2	250	--	Natural sources
Sodium (ppm)	04/07/21 04/29/21	43	38	--	20	Natural sources; runoff from road salt -

*Most of the data presented in the above tables are from testing performed between January 1 - December 31, 2021. We monitor for some contaminants less than once per year because the concentrations for those contaminants are not expected to vary significantly from year to year. As a result, some of our data, though representative, is more than a year old. For those contaminants, the date of the last sample is shown in the table.*

**Source Water Assessment and Protection (SWAP) Program**

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Dudley citizens and our local officials can work together to better protect our drinking water sources. The MassDEP completed the Source Water Assessment and Protection (SWAP) report for the Dudley Water Department. The complete report is available at the Water Department or online at [www.mass.gov/dep/water/drinking/2080000.pdf](http://www.mass.gov/dep/water/drinking/2080000.pdf). The SWAP report contains important information on land uses and potential threats within the protected areas of our wells. Dudley’s susceptibility ranking was determined by

MassDEP to be *High*, which means we need to be extra vigilant in monitoring or restricting activities that might contaminate our water supply.

Dudley was advised to 1) inspect the Zone I(s) regularly and, when feasible, remove any non-water supply activities; 2) educate residents on ways they can help protect drinking water; 3) work with emergency response teams to ensure they are aware of the stormwater drainage in our Zone II(s) and to cooperate on responding to spills or accidents; 4) partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials; 5) monitor progress on any ongoing remedial action for known oil or contamination sites in the Zone II; and 6) implement a wellhead protection plan.

The Dudley Water Department has been commended by MassDEP for taking an active role in promoting source protection measures in our Water Supply Protection areas. Citizens can also help protect our water supply by proper maintenance of septic

systems. You can help by pumping out your septic system every two years and do not use septic system cleaners. Never dump hazardous substances down septic or storm drains. For additional information or to offer suggestions or ideas to generate public awareness, please call the Water Department office at 508-949-8007, the shop at 508-949-8038, or stop by the office at the Town Hall, 71 West Main St., Room 305.

***Water Conservation***

The Water Department encourages efficient use of water to ensure an adequate supply for the future. Good practices including using water efficient fixtures and appliances (toilets, showerheads, washing machines & dishwashers), repairing leaky faucets and toilets, and watering lawns early in the morning or late in the evening when evaporation rates are the lowest and only when needed. Reducing water use will also serve to reduce your water and sewer bills. Another excellent way to save water is through the practice of using “low water use plants” and limiting lawn size.

In 2002, we made great strides in our water conservation efforts by adopting a Water Use Restriction By-Law at the Spring Annual Town Meeting. The Board of Water Commissioners also amended the new service regulations, which prohibit the use of automatic lawn irrigation systems. If you would like more information on water conservation, please call or visit the Water Department Office located at the Town Hall.

***Water Use Restrictions***

Standard drought monitoring and permitted withdrawal limits were followed in 2020. No additional Water Use Restrictions were imposed by the Dudley Water Department. If you need more information on this topic, please visit the town’s website at [www.dudleyma.gov](http://www.dudleyma.gov).

***What’s New***

Water system improvements made in 2021 include the installation of new ductile iron water main on Mason Road and Mason Road Extension and the installation of a blending main between Station #3 and Station #6 as a temporary solution to reduce the PFAS concentrations throughout the water distribution system.

***Residential Cross Connection Protection***

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, if you want to spray fertilizer on your lawn, you might hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the town) while the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

The Water Department recommends the installation of backflow-prevention devices, such as low-cost hose bib vacuum breakers, for all inside and outside hose connections. You can purchase them at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in our town. For additional information on cross connections and on the status of Dudley's cross connection program, please call us.

***Contact Us***

If you have any questions about this report or if you'd like additional copies, please contact Administrative Assistant, Jennifer Cournoyer by calling 508-949-8007 or by email [watersewer@dudleyma.gov](mailto:watersewer@dudleyma.gov), or Water Superintendent, George Patrinos at the shop at 508-949-8038. After hours: If there is an emergency please contact the Dudley Police Department at 508-943-4411.