

2021 Annual Water Quality Report

(Representing calendar year 2020)

Kenwood Water District - PWS #3079001

Small Water Systems Services, L.L.C. (SWSS) is pleased to present the Kenwood Water District's annual water quality report. This report is a requirement of all water systems and will be updated and distributed annually. This report includes information about our operations, the quality of your drinking water in 2020, and some useful information on water conservation; please save it as a reference. Each year, the new report will highlight any changes in our water system and update you with the most recent information about your drinking water.

Where Your Drinking Water Comes From:

The Kenwood Water District is a *consecutive* municipal water system to Lowell and Methuen Water Departments. This means we are a distribution system only; we do not have our own water source, nor do we treat the water we purchase. We purchase water from the Lowell and Methuen Water Departments and supply it to our customers who are all located in the eastern portion of Dracut. Both Lowell and Methuen's source of water is the Merrimac River (a surface water source), which originates in the White Mountains of New Hampshire. Customers in the eastern and northern portions of the Kenwood Water District receive their water from the Methuen Water Department, while the rest of our customers receive their water from the Lowell System.

Kenwood Water District's system is composed of water mains, service lines, pumping stations, metering stations, gates and valves. *Small Water Systems Services, L.L.C.* has been contracted to operate and maintain this system.

Ensuring Your Water Is Safe

Regularly, throughout the year, samples of your water are collected and tested for various contaminants. In addition to the water testing done by the Lowell and Methuen Water Departments, we conduct additional sampling to ensure your water is safe to drink. The following tables provide information about substances that have been detected in the water during 2020. The tables outline results of the tests performed in both the Lowell and Methuen water systems, as well as the sample results found directly within the Kenwood Water District's system. If you live within the area served by Methuen water, please refer to the table describing Methuen's water quality, if you live in the area of our district served by Lowell water, please refer to those tables. The data describing those water supplies is given to us from Methuen and Lowell Water Departments.

Substances Found In Tap Water

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 (800-426-4791.)

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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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/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).

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 storm water 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 storm water 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 storm water runoff, and septic systems. **Radioactive contaminants** can be naturally occurring or be the result of oil and gas production, and mining activities.

2020 Methuen Water Quality Summary:

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

2020 Water Quality Data from the Methuen Water Department and Distribution System:

Parameter (UNITS)	Date	MCLG	MCL	Amount Detected	Range Low-High	Violation (Y/N)	Typical Source
REGULATED SUBSTANCES							
Perchlorate	2020	N/A	2	0.19	0.00 - 0.19	N	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
Total Organic Carbon (% removal)	2020	N/A	TT= 35-45% removal	1.54	< 0.500 - 1.20	N	Naturally present in the environment
Total Coliform	2020	0	>5%	—	—	N	Naturally present in the environment
Chlorine (ppm)	2020	4	4	1.02	0.05 – 1.4	N	Water additive used to control microbes
Total Trihalomethanes [TTHMs] (ppb)	2020	N/A	80	47	5.1 – 5.5	N	By product of drinking water disinfection
Haloacetic Acids [HAA] (ppb)	2020	N/A	60	15	5.7 - 20	N	By product of drinking water disinfection
Turbidity	TT	Lowest Monthly % of Samples		Highest Daily Value		Violation (Y/N)	Typical Source
Daily Compliance (NTU)	5	—		0.294		N	Soil runoff
Monthly Compliance	At least 95%	100%		—		N	Soil runoff
Parameter (UNITS)	Year	AL	MCLG	Amount Detected (90th %tile)	Sites Above AL/ Total Sites	Violation	Typical Source
Copper (ppm)	2018	1.3	1.3	0.073	0/30	N	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppm)	2018	0.015	0	0.0010	0/30	N	Corrosion of household plumbing systems; Erosion of natural deposits

The city is only required to test for lead and copper every three years due to the non-existent and extremely low levels found at our taps. Tap water samples were collected for lead and copper analysis throughout the community. Samples are scheduled to be collected the summer of August/September 2021.

UNREGULATED or SECONDARY CONTAMINANTS (MCL has not yet been established)

Parameter (UNITS)	Date	Result or Range	SMCL	ORSG or Health Advisory	Typical Source
Odor (T.O.N)	2020	<1.0	3 TON	N/A	Erosion from natural deposits
pH	2020	6.9 – 7.6	6.5 — 8.5	N/A	N/A
Sodium (ppm)	2020	26	20	N/A	Naturally present in the environment and road salt
Sulfate (ppm)	2020	18	250		Natural sources
Manganese (ppm)	2020	11	0.05	N/A	Erosion of natural deposits

Total Dissolved Solids	2020	110	500	N/A	Runoff and leaching from natural deposits; seawater influence
Chlorate (ppb)	2020	253	160 - 253	210	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
Chromium (ppb)	2020	0.15	< 0.03 – 0.14	100	Discharge from steel and pulp mills; Erosion of natural deposits
Strontium (ppb)	2020	48	30 - 59	1500	Naturally occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium (ppb)	2020	0.3	< 0.2 – 0.5	21	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst
Bromodichloromethane (ppb)	2020	3.8	1.6 – 8.8	--	Trihalomethane; by-product of drinking water chlorination
Chloroform (ppb)	2020	3.8	3.0 – 5.7	70	Trihalomethane; by-product of drinking water chlorination. (In non-chlorinated sources, chloroform may be naturally occurring.)

WHAT IS UCMR?

Unregulated contaminants are those that do not have a drinking water standard set by the United States Protection Agency (US EPA). The UCMR3 results listed in the table above are those contaminants which were found to be greater than the analytical laboratory detection limit. Every five years, public water suppliers are required per the provisions of the Safe Drinking Water Act (SDWA) to monitor for up to 30 contaminants. This is referred to as the “UCMR” monitoring program. The results provide US EPA with valid data on the occurrence of contaminants in drinking water and help determine whether or not standards should be set. During 2014 and 2015, the Methuen Water Treatment Plant monitored for 21 contaminants at the entry point to the distribution system. The list of contaminants to be monitored by the Methuen Water Treatment Plant was established by US EPA, and included metals, organic compounds and perfluorinated compounds. For additional information, please visit <http://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule>

2020 Lowell Water Quality Summary

The table below lists all the contaminants that we detected during the 2020 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise indicated, the data presented in this table is from testing done between January 1 and December 31, 2020.

2020 Water Quality Data from the Lowell Water Department:

Contaminants Detected:

Date	Contaminant	MCL	MCLG	Units	Result	Min/Max	Violation	Likely Sources
2/11/2020	Barium	2	2	mg/l	0.0034	N/A	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
2/11/2020	Cyanide	0.2	0.2	mg/l	ND	N/A	No	Discharge from steel/metal factories Discharge from plastic and fertilizer factories.
2/11/2020	Nitrate	10	10	mg/l	0.329	N/A	No	Runoff from fertilizer use; Leaching of septic tanks or sewers: Erosion of natural deposits
2/11/2020	Fluoride	4	4	mg/l	ND	N/A	No	Erosion of natural deposits; Water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
2/11/2020	Sodium	N/A	N/A	mg/L	54.0	54.0	No	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents
2020 Quarterly	Chlorite	1	0.8	mg/l	0.30	0.17 to 0.30	No	By-product of drinking water disinfection
2020 Quarterly	Chloroform	N/A	N/A	ppb	16.6	7.4 to 16.6	No	By-product of drinking water chlorination.
2020 Quarterly	Bromodichloromethane	N/A	N/A	ppb	7.5	1.9 to 7.5	No	By-product of drinking water chlorination.
2/11/2020	Sulfate	N/A	N/A	ppm	6.0	6.0	No	Natural sources

Quarter 3 2020	Lead	AL=.015	0	mg/l	ND	N/A	No	Corrosion of household plumbing systems. Erosion of natural deposits.
Quarter 3 2020	Copper	AL = 1.3	1.3	mg/l	0.19	N/A	No	Corrosion of household plumbing systems. Erosion of natural deposits; Leaching from wood preservatives
2/11/2020	Sodium	n/a	n/a	mg/l	54.0	N/A	No	Erosion of natural deposits (excluding radon and uranium)

Disinfection Byproducts & Precursors:

Date	Contaminant	MCL	Units	Result	Result Range	Violation	Likely Sources
2020 Quarterly	Total Haloacetic Acids (HAA5)	60	ppb	12	8 - 12	No	By-product of drinking water chlorination
2019 Monthly	Total Organic Carbon (Raw Water) TOC	TT	mg /L	1.94	1 - 5.30	No	Naturally present in the environment
2020 Quarterly	Total Trihalomethanes (TTHM)	80	ppb	51	27 - 51	No	By- product of drinking water chlorination

Microbiological Contaminants:

Date	Contaminant	MCL	MCLG	Units	Result	Min/Max	Violation	Likely Sources
Continuous	Turbidity	5	NA	NTU	0.20	0.028 – 0.20	No	Soil runoff

Coliform Bacteria:

Date	Total Coliform	Fecal Coliform / E-Coli	MCL	MCLG	Violation	Likely Sources
Weekly	1	0	0	0	No	Naturally present in the environment

Radiological Contaminants:

Date	Contaminant	MCL	MCLG	Units	Result	Min/Max	Violation	Likely Sources
2020	Gross Alpha	15	0	pCi/l	0.01	N/A	No	Erosion of natural deposits (excluding radon and uranium)
2020	Radium-228	5	0	pCi/l	0.20	N/A	No	Erosion of natural deposits (excluding radon and uranium)

Residual Disinfectant

Date	Contaminant	MCL	MCLG	Units	Result	Min/Max	Violation	Likely Sources
2019 Daily	Chlorine Residual	4 MRDL	--	mg/l	1.49	0.96 – 2.06	No	Water additive (disinfectant) used to control microbiological organisms

Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should have a standard.

	Date(s) Collected	Detect Result or Range	Quarterly Average	MCL	Violation (Y/N)	Possible Source(s) of Contamination
PFAS6 (ppt)	2020 Quarterly	8.14	N/A	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.

Important Definitions for Tables Above and Below:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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

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.

pCi/l: Picocuries per liter, a measure of radioactivity.

ppm: Parts Per Million, or milligrams per liter (mg/l); **ppb:** Parts Per Billion, or micrograms per liter (µg/l).

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

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.

AL = Action Level

NTU = Nephelometric Turbidity Unit

pCi/L = picocuries per liter (a measure of radioactivity)

P* = Potential Violation

n/a = not available or not applicable

ND = Not Detected

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level

2020 Kenwood Water District Sampling Analyses

In addition to the testing done by Lowell and Methuen Water Departments, Kenwood Water District also conducts sampling and testing. The scheduled monthly monitoring in 2020 showed no detections for coliform bacteria in the finished water. The following charts outline the remaining lab results:

2020 Water Quality Data for Kenwood Water District:

Regulated Contaminants	Date Collected	Highest result or highest running average detected	Range	MCL	MCLG	Violation	Possible Sources
Tetrachloroethylene, ppb	12-2-20	ND	ND	5	0	N	Discharge from factories and dry cleaners
Total Trihalomethanes (TTHM), ppb	Quarterly 2020	running annual avg	13.6 – 46.4	80	--	N	By-product of drinking water chlorination
Haloacetic Acids (HAA5), ppb	Quarterly 2020	running annual avg	1.28 - 15	60	--	N	By-product of drinking water chlorination
Chlorine/Chloramines, ppm	Monthly 2020	running annual avg	0.29- 0.40	4.0 MRDL	4	N	Water additive used to control microbes

Lead and Copper	Dates Collected	90th Percentile	Action Level (AL)	MCLG	# of sites Sampled	# of sites above AL	Exceeds AL? (Y/N)
Lead (ppb)	Aug – Sep 2020	1	15	0	20	0	N
Possible sources: Corrosion of household plumbing systems; erosion of natural deposits. Lead and copper compliance is based on the 90 th percentile value, which is the highest level found in 18 out of 20 sites sampled, or the average of the 2 highest values if less than 10 sites are sampled.							
Copper (ppm)	Aug – Sep 2020	0.016	1.3	1.3	20	0	N
Possible sources: Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives							

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. Kenwood Water District 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>.

Water Conservation Tips:

Water, as a renewable, vital and valuable resource is becoming more and more important to all of us. The Kenwood Water District encourages all its customers to use water conservation measures in everyday living throughout the year; some practical measures are as follows:

Water Conservation in Your Home:

- Fixing leaking faucets, pipes, toilets, etc.
- Wash only full loads of laundry.
- Use the dishwasher only when full.
- Don't use the toilet for trash disposal.
- Take shorter showers.
- When washing hands, brushing teeth or shaving, use only as much water as you need.
- Install water-saving devices in faucets, toilets and appliances

Water Conservation Outside:

Minimize the size of your lawn as lawn watering may consume more than 30% of summer residential water use.

Use mulch around plants and shrubs and choose plants that don't need much water.

Use water from a bucket to wash your car and save the hose for rinsing.

Use a broom instead of water from a hose to clean your driveway and sidewalk.

Mandatory Water Restrictions:

Dracut's outside watering restrictions allow odd numbered houses to use outside water on Wednesdays, Fridays and Sundays; even numbered houses on Tuesdays, Thursdays, and Saturdays; no outside watering on Mondays (handheld hoses only, with no automated devices). This restriction is in effect every year, from May 1 through October 31. In the event that time restrictions are required, customers will be notified in the local news media along with community signs.

Swap Report:

MassDEP prepared a Source Water Assessment & Protection Program (SWAP) Report for most water supply source(s) in Massachusetts. The SWAP Report assesses the contamination susceptibility of public water sources. Since the Kenwood Water system does not have a source, no SWAP report will be made. However, the Lowell and Methuen Water Systems have; if you would like to read more about what the SWAP inspections found at these water systems, please click on <http://www.mass.gov/eea/agencies/massdep/water/drinking/source-water-protection-for-drinking-water-supplies.html> for more information.

Cross-Connection Inspections:

In 2007, *Small Water Systems Services*' operators conducted about 40 cross-connections surveys throughout the Kenwood Water District and in 2009 we re-surveyed all the businesses along route 110. We visited every business property, commercial and industrial, which receives water from the Kenwood District and looked for any unprotected cross-connections between potable and non-potable supplies. We appreciated everyone's cooperation and were very pleased with the inspections; a few cross-connections were identified and soon corrected. Thank you, Kenwood business community.

In 2012 your Cross-Connection Control Program was updated in accordance with DEP regulations. The report was compiled with the help of the Dracut Town Clerk and other Town officials. We update the Cross-Connection Control Program when DEP requests these documents.

What can you do for cross-connection prevention?

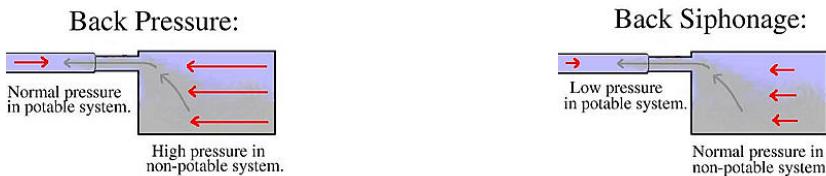
Our staff works very hard to protect the quality of the water delivered to our customers. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection and, if so, how?

What is a cross-connection?

A cross-connection is any actual or potential connection between the drinking water lines and potential sources of pollution or contamination, such as a piping arrangement or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases hazardous to humans in event of a backflow event.

What is backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of the water can occur when the pressure created by equipment, such as a boiler or air-conditioning system, is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand, causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



What can I do to help prevent a cross-connection?

Without the proper protection, something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact more than half the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you, as a drinking water user, can take to prevent such hazards, including:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pools, tubs, sinks, drains or chemicals.
- NEVER attach a hose to a garden sprayer without the proper backflow preventers.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances equipped with backflow prevention devices.
- Buy and install backflow preventers or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial or institutional facility, you must have your property's plumbing system surveyed for cross-connections by your water supplier. If your property has NOT yet been surveyed, contact your water department to schedule a cross-connection survey.

STORM WATER TIPS

1. Don't dump anything into storm drains.
2. Dispose of hazardous waste through Dracut's ongoing waste oil collection program on hazardous waste collection days.
3. When watering your lawn, don't over water.
4. Water that runs off sidewalks and roadways carries contaminants (oil, grease, and metals) into our storm drain system.
5. Divert runoff from pavement to grassy, planted, or wooded areas of your property.
6. Reduce fertilizer and pesticide use.
7. Sweep up salt and sand on your walkways after snowmelt. Don't hose down driveways or sidewalks.
8. Inspect your vehicles and equipment for leaking and damaged parts.



STORM WATER—NPDES

Water pollution degrades surface waters making them unsafe for drinking, fishing, swimming, and other activities. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating "point sources" that discharge pollutants into waters of the United States. Point sources are often discrete conveyances such as pipes or man-made ditches or drains (catch basins) that direct "storm water" to a surface source. Storm water runoff is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces (paved streets, parking lots, and building rooftops), and does not percolate into the ground. As the runoff flows over the land and impervious surfaces it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the runoff is discharged untreated into our river or tributaries. Federal and state laws and regulations require municipalities with a storm drain system to manage and control all storm water discharges in their city and they, along with everyone who wants to discharge any type of water with pollutants, must first obtain an NPDES permit to do so. If you see a suspicious discharge to a body of water or storm drain (catch basin, slotted manhole, etc.), please contact Kenwood / Water Department at (978)453-0951.

A Note from Your Water Operators:

SWSS is contracted to provide licensed water operator coverage for the water system serving Kenwood Water District. It is our responsibility to maintain the system's compliance with all drinking water operation requirements. We monitor your drinking water, routinely evaluating the water quality entering your distribution system and inspecting the systems regularly. For more information, call your operators at SWSS at 978-486-1008.

Sources of Additional Information:

Contact EPA's Safe Drinking Water Hotline for more information about contaminants and potential health effects: 1-800-426-4791.

For any other questions about your water supply or meeting times to discuss your water supply, please call your water operators at Small Water Systems Services, at 978-486-1008, www.swss.biz, or the Town Manager's office, Ana Vandal, at the Dracut Town Hall, 978-957-0371, located at 62 Arlington Street, Dracut, MA 01826. Online information is also available at www.dracutma.gov.