

# West Newbury Water Department

## “Annual Water Quality Report”

January 1, 2022 – December 31, 2022

Chairman – Robert Janes    Commissioner’s – Larry Corcoran and John Duggan - Manager/Superintendent – Mark Marlowe  
Administrative Assistant - Jodi Bertrand    Licensed Operators – Donald Goodwin and Jason Allard

### The Quality of Your Drinking Water

The West Newbury Water Department (PWS ID# 3324000) is committed to providing our customers with high quality drinking water. We are pleased to report our 2022 water testing results to you directly to inform you about your drinking water. Federal regulations require that we supply you a report each year with information about our previous year’s annual water quality.

### Where Your Drinking Water Comes From

Our source of drinking water comes from Wellfield #1, which is located at 999 Main Street. The well field is comprised of nine individual shallow driven wells that are manifolded together and one deep bedrock well. We have approximately twenty-nine miles of water main, two water storage tanks and one booster transfer station. We supply water to approximately 1,100 services, which is approximately sixty four percent of the town. In addition, we purchase water from the City of Newburyport when it is impossible to keep up with demand or we experience low water levels in the well. Newburyport’s water supply is comprised of eighty-percent surface water and twenty-percent ground water. The surface water comes from the Indian Hill Reservoir in West Newbury, the Artichoke Reservoir located in both West Newbury and Newburyport located next to the West Newbury Wellfield at 999 Main Street and the Bartlett Spring Pond in Newburyport. The ground water comes from two separate gravel packed wells.

### Source Water Assessment Program

The Department of Environmental Protection (DEP) prepared a Source Water Assessment Program (SWAP) Report for the water supply sources serving this water system. This report notes the key land uses within the water supply protection areas for Wellfield #1 and the potential contamination for these land uses. A susceptibility ranking of moderate was assigned to this system using the information collected during the assessment by MassDEP. In 1999 the town adopted the “Ground Water Protection Bylaw”. This Bylaw sets in place zoning restrictions within the watershed of the ground water supply. It is hopeful this Bylaw will help protect our valuable water resources from contamination.

A complete SWAP report is available at the Water Department office or online at [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/). For more information, contact Mark Marlowe at (978) 363-1100 X127.

### Water Treatment

In order to meet State and Federal requirements for public drinking water, our source waters receive the following chemical additions before being delivered to our customers. Water filtration is not required in this process.

- ❖ Chlorine is added to disinfect water to prevent waterborne diseases.
- ❖ Potassium Hydroxide is added to adjust the pH of the water. It is used to reduce the acidity of the water.
- ❖ Sodium Fluoride is added to help prevent tooth decay.

### Vulnerability

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 about drinking water from their health care providers. Environmental Protection Agency (EPA) and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are also available from the Safe Drinking Water Hotline at (800-426-4791).

### West Newbury Water Quality Testing

The Water Department employ’s three State Certified Operators that test the water quality daily, 365 days per year. The operators are also on call 24 hours per day, 365 days per year. Water operators along with State Certified Laboratories test for hundreds of potential contaminants. These tests confirm that all the samples that we’re taken met all State and Federal drinking water quality standards.

### Substances Found in Your Tap Water

Drinking water, including bottled water, may be reasonably expected to contain at least some small amounts of certain substances which EPA calls “contaminants”. The presents of these substances do not necessarily indicate that the water poses a health risk. For example, as water travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals. More information about the substances found in your water and their potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline (800) 426-4791.

### Lead in Drinking Water

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 West Newbury 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>.

*“This institution is an equal opportunity provider”*

### Contaminants that May be Present in Source Waters

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 and through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material. It can pick substances resulting from the presence of animals or human activity. Contaminants that may be present in the source water include:

**Microbial contaminants** - such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants** – such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.

**Pesticides and herbicides** – which may come from a variety of sources such as agricultural, urban storm water runoff, and residential uses.

**Organic chemical contaminants** – including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.

**Radioactive contaminants** – which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection (DEP) 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 Food and Drug Administration (FDA) and the Massachusetts Department of 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 contaminants. The presence of these substances does not necessarily indicate that the 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).

**Any Questions**

Water Department office hours are Monday-Thursday, 8:30am–2:30pm. The Board of Water Commissioners meet monthly in the Water Department Office. Please check the Town Website for day/time posted for meetings. To be on the agenda, you can call the office. All Public is welcome. If you have any questions about West Newbury Water, please contact Mark Marlowe, Manager/Superintendent at the Water Department office, (978)363-1100 ext.128 or e-mail to [water.superintendent@wnewbury.org](mailto:water.superintendent@wnewbury.org). If you have any questions about Newburyport Water, you can call their water treatment facility at (978)465-4466 or e-mail Tom Cusick at [tcusick@cityofnewburyport.com](mailto:tcusick@cityofnewburyport.com).

**Water Conservation and Cross Connection Tips**

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less water whenever you can. It is not hard to conserve water. You can view information about water conservation and cross connections on the Water Departments website at [www.wnewbury.org](http://www.wnewbury.org); click on Departments, Water Department, and then the link to the document “Helpful Hints”. You can obtain water conservation literature at the Water Department Office and also go to [www.greenscapes.org](http://www.greenscapes.org) for additional conservation information.

**Installation of Lawns and Irrigation Polices**

As of 2003, irrigation systems are not allowed to be installed to the municipal water system. All systems installed prior to that date are grandfathered. Irrigation systems can be installed to a private well but there cannot be any connection to the municipal water system and all plumbing to the well and irrigation system must be installed outside of the home or dwelling.

**LAWNS:** Install new lawns in the early spring or fall when temperatures are mild. **DO NOT** wait until late spring or summer to install the lawn. A water ban may be in effect which will not allow you to water the lawn. The Town of West Newbury is usually under a water restriction or water ban every year.

**WEST NEWBURY WATER QUALITY RESULTS**

<u>REGULATED SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>HIGHEST LEVEL DETECTED</u>	<u>RANGE</u>	<u>VIOLATION Y/N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
FLUORIDE (ppm)	4	4	0.80	0.07-1.0	N	EROSION OF NATURAL DEPOSITS, WATER ADDITIVE WHICH PROMOTES STRONG TEETH
PERCHLORATE (ppb)	2	NA	0.178	NA	N	ROCKET PROPELLANTS, FIREWORKS, FLARES, MUNITIONS, BLASTING AGENTS
BARIUM (ppm)	2	2	0.06	0.01-0.06	N	DISCHARGE FROM DRILLING WASTE, METAL REFINERIES, EROSION OF NATURAL DEPOSITS
NITRATE (ppm)	NA	10	0.64	0.1-1.0	N	RUNOFF FROM FERTILIZER USE, LEACHING FROM SEPTIC TANKS, SEWAGE, EROSION OF NATURAL DEPOSITS
NITRITE (ppm)	NA	10	ND	NA	N	RUNOFF FROM FERTILIZER USE, LEACHING FROM SEPTIC TANKS, SEWAGE, EROSION OF NATURAL DEPOSITS
RADIUM 228 (pCi/L)	15	0	0.3 +/- 0.7	0.1-0.7	N	NATURALLY OCCURRING DEPOSITS
RADIUM 226 (pCi/L)	15	0	1.3 +/- 0.4	0.2-0.3	N	NATURALLY OCCURRING DEPOSITS
CHLORINE (ppm)	4	4	2.16	0.21-2.16	N	WATER ADDITIVE USED TO CONTROL MICROBES
TOTAL COLIFORM BACTERIA	>5% IN ALL MONTHLY SAMPLES	0	0	NA	N	NATURALLY PRESENT IN ENVIRONMENT
PFAS6 (ppt)	20	NA	3.03	1.9-3.66	N	DISCHARGES AND EMISSIONS FROM PRODUCTION OF MOISTURE AND OIL-RESISTANT COATINGS ON FABRICS AND OTHER MATERIALS

<u>TTHM/HAA5</u> <u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>RUNNING ANNUAL AVERAGE</u>	<u>VIOLATION</u>		<u>MAJOR SOURCES IN DRINKING WATER</u>
				<u>RANGE</u>	<u>Y/N</u>	
TOTAL TRIHALOMETHANE (ppb)	80	NA	48	25-82	N	BY-PRODUCT OF DRINKING WATER CHLORINATION
HALOACETIC ACIDS (ppb)	60	NA	16	8-23	N	BY-PRODUCT OF DRINKING WATER CHLORINATION

**LEAD AND COPPER TESTING AT THE CUSTOMER'S HOME DURING SAMPLING CONDUCTED IN 2022**

<u>LEAD AND COPPER</u> <u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>90<sup>TH</sup> PERCENTILE</u>	<u>SITES ABOVE AL</u>	<u>VIOLATION</u> <u>Y/N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
LEAD (ppb)	15	0	0.004	0	N	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS, EROSION OF NATURAL DEPOSITS
COPPER (ppm)	1.3	1.3	0.896	0.1-0.896	N	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS, EROSION OF NATURAL DEPOSITS, LEACHING OF WOOD PRESERVATIVES

<u>SECONDARY</u> <u>SUBSTANCE</u>	<u>SMCL</u>	<u>MCLG</u>	<u>HIGHEST LEVEL DETECTED</u>	<u>RANGE</u>	<u>VIOLATION</u>		<u>MAJOR SOURCES IN DRINKING WATER</u>
					<u>Y/N</u>		
ODOR (TON)	3	NA	2	1-2	N		NATURALLY OCCURRING ORGANIC MATERIALS
Ph (units)	6.5-8.5	NA	8.12	7.2-8.0	N		NATURALLY OCCURRING
HARDNESS, TOTAL (ppm)	250	NA	90	NA	N		NATURALLY OCCURRING

<u>UNREGULATED</u> <u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>HIGHEST LEVEL DETECTED</u>	<u>RANGE</u>	<u>VIOLATION</u>		<u>MAJOR SOURCES IN DRINKING WATER</u>
					<u>Y/N</u>		
SODIUM (ppm)	NONE	NA	68.2	NA	N		NATURALLY OCCURRING DEPOSITS, ROAD SALTS, WATER TREATMENT CHEMICALS

**NEWBURYPORT WATER QUALITY REPORT**

<u>REGULATED</u> <u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>HIGHEST LEVEL DETECTED</u>	<u>RANGE</u>	<u>VIOLATION</u>		<u>MAJOR SOURCES IN DRINKING WATER</u>
					<u>Y/N</u>		
FLUORIDE (ppm)	4	4	1.1	0.00-1.1	N		EROSION OF NATURAL DEPOSITS, WATER ADDITIVE WHICH PROMOTES STRONG TEETH
BARIUM (ppm)	2	2	0.007	0.009-0.033	N		DISCHARGE FROM DRILLING WASTE, METAL REFINERIES, EROSION OF NATURAL DEPOSITS
CHLORINE (ppm)	4	4	1.59	0.72-1.59	N		WATER ADDITIVE USED TO CONTROL MICROBES
NITRATE (ppm)	NA	10	1.93	0.274-1.93	N		RUNOFF FROM FERTILIZER USE, LEACHING FROM SEPTIC TANKS, SEWAGE, EROSION OF NATURAL DEPOSITS
PERCHLORATE (ppb)	2	NA	0.27	0.075-0.27	N		ROCKET PROPELLANTS, FIREWORKS, FLARES, MUNITIONS, BLASTING AGENTS
TOTAL ORGANIC CARBON (ppm)	TT	NA	2.8	1.4-2.8	N		NATURALLY PRESENT IN ENVIROMENT
TURBIDITY (NTU)	TT	NA	0.12	0.02-0.12	N		SOIL RUNOFF
TURBIDITY (LOWEST MONTHLY % OF SAMPLES MEETING LIMIT)	TT = 95% OF SAMPLES MEET THE LIMIT	NA	100	NA	N		SOIL RUNOFF
PFAS6 (ppt)	20	NA	4.67	2.6-5.1	N		DISCHARGES AND EMISSIONS FROM PRODUCTION OF MOISTURE AND OIL-RESISTANT COATINGS ON FABRICS AND OTHER MATERIALS

**LEAD AND COPPER TESTING AT THE CUSTOMER'S HOME DURING SAMPLING CONDUCTED IN 2022**

<u>LEAD AND COPPER</u> <u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>90<sup>TH</sup> PERCENTILE</u>	<u>SITES ABOVE AL</u>	<u>VIOLATION</u> <u>Y/N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
LEAD (ppb)	15	0	ND	0	N	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS, EROSION OF NATURAL DEPOSITS
COPPER (ppm)	1.3	1.3	0.089	0	N	CORROSION OF HOUSEHOLD PLUMBING SYSTEMS, EROSION OF NATURAL DEPOSITS, LEACHING OF WOOD PRESERVATIVES

**TRIHALOMETHANE AND HALOACETIC ACID SAMPLING FROM DISTRIBUTION SYSTEM**

<u>SUBSTANCE</u>	<u>MCL</u>	<u>MCLG</u>	<u>RUNNING ANNUAL AVERAGE</u>	<u>RANGE</u>	<u>VIOLATION Y/N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
TOTAL TRIHALOMETHANE (ppb)	80	NA	65	25-84	N	BY-PRODUCT OF DRINKING WATER CHLORINATION
HALOACETIC ACIDS (ppb)	60	NA	23	9.0-34	N	BY-PRODUCT OF DRINKING WATER CHLORINATION

**SECONDARY CONTAMINANTS**

<u>SECONDARY SUBSTANCE</u>	<u>SMCL</u>	<u>MCLG</u>	<u>HIGHEST LEVEL DETECTED</u>	<u>RANGE</u>	<u>VIOLATION N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
PH (units)	6.5-8.5	NA	7.9	7.2-7.9	N	NATURALLY OCCURRING

<u>UNREGULATED SUBSTANCE</u>	<u>AMOUNT DETECTED</u>	<u>RANGE (LOW-HIGH)</u>	<u>VIOLATION Y/N</u>	<u>MAJOR SOURCES IN DRINKING WATER</u>
BROMODICHLOROMETHANE (ppb)	6.1	0-6.1	N	NA
CHLORODICHLOROMETHANE (ppb)	2.3	0-2.3	N	NA
CHLOROFORM (ppb)	6.2	0-6.2	N	NA
SODIUM (ppm)	45	43-45	N	NATURALLY OCCURRING DEPOSITS, ROAD SALTS, WATER TREATMENT CHEMICALS

**Table Key**

**ppm** - parts per million; one part per million is equivalent to \$.01 in \$10,000.  
**ppb** - parts per billion; one part per billion is equivalent to \$.01 in \$10,000,000.  
**ppt** - parts per trillion; one part per trillion is equivalent to \$.01 in \$100,000,000  
**MCL** - Maximum Contaminant Level; the highest level of contaminant that is allowed in drinking water.  
**MCLG** - Maximum Contaminant Level Goal; the level of substance in drinking water below which there is no known health effects.  
MCLG's allow for a margin of safety  
**SMCL**-Secondary Maximum Contaminant Level; These standards are developed to protect the aesthetic qualities of drinking water and are not health based.  
**Turbidity** - Turbidity is a measurement of the cloudiness of the water. Low NTUs are a good indicator of the effectiveness of our filter process  
**NTU** - Nephelometric Turbidity Units: a measure of the presence of particles in drinking water. Low NTUs is an indicator of high-quality water.  
**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 which a water system must follow.  
**pCi/L** – Picocuries per liter; A measurement of radiation.  
**ND** – None Detected  
**TON** – Threshold Odor Number; a measure of odor in water  
\*The EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects and a one-day and ten-day HA of 1000 ppb for acute exposure.  
**LRAA** – Locational Running Annual Averages. The average of a sample analytical results for samples taken at a particular monitoring location during the Previous four calendar quarters. Amount Detected values for TTHMs and HAA5s are reported as the highest LRAAs.  
**90<sup>th</sup> Percentile** – Out of every 10 homes sampled, 9 were at or below this level. This number is compared to the Action Level to determine lead and copper compliance.  
**NA** – Not Applicable  
**MRDL** – Maximum Residual Disinfection 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. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.