WARE WATER DEPARTMENT

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PWS ID# 1309000

2019 WATER QUALITY REPORT

The Ware Water Department is pleased to present to you the 2019 Water Quality Report. This report is designed to inform you about the quality of water and the services we deliver to you every day. Our goal is to provide you with a safe and dependable supply of drinking water that meets all state and federal drinking water standards. We are committed to ensuring the quality of your water.

If you have questions about this report, please contact Andy Lalashius, Water Supervisor, at (413) 967-9620 or dpwwater@townofware.com. The Ware DPW office hours are M-F 8:00am-4:00pm. More information about the water can be found on the town's website, www.townofware.com, in the DPW section. You can attend regularly scheduled town meetings for information, the dates of which are posted on the town's website.

Water Sources

The Town of Ware has six groundwater supplies at two sources. The Barnes Street source consists of four gravel-packed wells that discharge into a large diameter brick cistern dating from the 1890's that is also an active supply source (MassDEP source ID 1309000-01G, 02G, and 04G). Well No. 5 (MassDEP source ID 1309000-03G) consists of a single gravel-packed well located on Gilbertville Road. The Barnes Street wells are located in the central section of the distribution system along Muddy Brook and Well No. 5 is located near the northeastern border of Ware.

Water Treatment

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that make the water neutral or slightly alkaline. The Ware Water Department adds Potassium Hydroxide to its water. This adjusts the water to a non-corrosive pH above 7.0. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All reservoirs and some ground water sources contain numerous microorganisms, some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. The Ware Water Department uses Sodium Hypochlorite (chlorine) as its disinfectant. The chlorine destroys harmful organisms by penetrating cell walls and reacting with its enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Water Quality Monitoring

The Ware Water Department routinely monitors for contaminants in your drinking water in accordance with Federal and State laws. The following tables show the results of our monitoring. The water quality information presented in these tables are from the most recent round of testing in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the tables.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. 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 Environmental Protection Agency (EPA)'s Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, EPA and the Massachusetts Department of Environmental Protection (MassDEP) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The 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.

Water Quality Terms

In the following results tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions.

90th Percentile: Out of every 20 homes, 18 were at or below this level. This number is compared to the action level to determine lead and copper compliance.

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

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.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a 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 contamination.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

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.

ppb (parts per billion): or Micrograms per liter (ug/L) – one ppb corresponds to a single penny in $10,000,000

ppm (parts per million): or Milligrams per liter (mg/L) – one ppm corresponds to a single penny in $10,000

Running Annual Average (RAA): The average of four consecutive quarters of data.

Secondary Maximum Contaminant Level (SMCL): These standards are developed to protect 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.

Unregulated Contaminants: Unregulated contaminants are those for which the Environmental Protection Agency (EPA) has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Lead and Copper

	Date(s) Collected	90TH percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	7/19/2017 – 8/1/2017	4.0	15	0	**20**	**0**	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	7/19/2017 – 8/1/2017	0.194	1.3	1.3	**20**	**0**	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Inorganic Contaminants

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL / MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
Barium (ppm)	11/14/17	0.024	0.018-0.024	2	2	**N**	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Nitrate (ppm)	10/22/19	2.15	0.22 - 2.15	10	10	**N**	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrite (ppm)	11/14/17	ND	ND	1	1	**N**	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	8/20/19	<0.3	<0.3	2	N/A	**N**	Rocket propellants, fireworks, munitions, flares, blasting agents

Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Iron (ppm)	05/21/19	0.035-0.228	0.132	0.3	N/A	Naturally occurring, corrosion of cast iron pipes
Manganese* (ppm)	05/21/19	0.076-0.174	0.125	0.05	Health Advisory of 0.3	Natural sources as well as discharges from industrial uses
Sulfate (ppm)	6/4/19	7.6-10.9	9.25	250	N/A	Runoff and leaching from natural deposits; industrial wastes

* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L and an acute HA at 1.0 mg/L

Unregulated Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
Sodium (ppm)	11/14/17	16-30	23	N/A	20	Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents

Disinfectants	Date(s) Collected	Highest Quarterly Running Annual Average	Range	MCL	ORSG	Violation (Y/N)	Possible Source
Chorine, Free (ppm)	Monthly	0.50	0.02-1.07	4	4	N	Water additive used to control microbes

What Does This All Mean?

Sources of drinking water (both tap water and bottle 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, wildlife, and pets.

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, and farming.

Pesticides and herbicides – which may come from a variety of sources such as agriculture, 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.

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 some infants can be particularly at risk from infections. These people should seek advice about drinking water 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).

Cross-Connection Control and Backflow Prevention

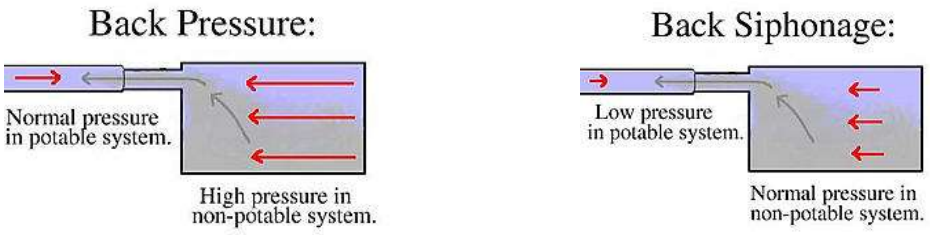
The Ware Water Department makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers throughout the entire treatment and distribution system. 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? If so, how?

What is a cross-connection?

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements 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.

What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning 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 over half of 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, they are:

- NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
- NEVER attached a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bib 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 and equipment with backflow preventers.
- Buy and install backflow prevention devices 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-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

Water Conservation

In an effort to conserve water and save money, here is a list of things you can do to help:

Indoor Water Use

Check for toilet leaks by adding food coloring to the tank. If the toilet is leaking, color will appear in the bowl within 15 minutes.
Inspect the overflow pipe in the toilet tank. The water level should be at least a half inch below the top of the pipe.
Repair dripping faucets and showerheads. A drip rate of one drop per second can waste more than 3000 gallons per year.
Limit the length of your showers to 5 minutes or less.
Stop running the water while you are shaving or brushing your teeth.
Don't use running water to thaw meat or other frozen foods.
Run the dishwasher only when it's fully loaded.
Run your washing machine with full loads whenever possible.

Outdoor Water Use

Look for sprinklers that produce droplets, not mist, or use soaker hoses or trickle irrigation for trees and shrubs.
Water early in the morning or late at night.
Spread a layer of mulch around trees and plants.
Use a broom, not a hose, to clean driveways, decks, and sidewalks.
Don't leave the water running while washing your car.

Source Water Assessment

Our wells draw their water from source water protection areas along Barnes St, Pleasant St, and Gilbertville Rd (Route 32). Potential sources of contamination in these areas are associated with a variety of commercial, residential and agricultural land uses as well as transportation corridors. DEP has assessed these areas as medium and high and they could be susceptible to potential contamination from fertilizers, pesticides and underground storage tanks. For a full copy of the DEP Source Water Assessment Report for our system, contact us or download it at: http://www.mass.gov/eea/docs/dep/water/drinking/swap/wero/1309000.pdf

2020 News

Hydrant flushing will be conducted twice a year, in the Spring and the Fall. Information on flushing can be found on the town's website: www.townofware.com , in the DPW section.

Water meter replacement will continue. Please note, there is no charge to the customer for the upgraded meter. These new meters have the advantage of taking a water profile of your past water usage. This profile can help determine if there is a leak present in your house.

There is concern throughout the town about the iron and manganese. These two chemicals are considered Secondary Contaminants. The levels of these contaminants are established as guidelines in order to assist public water systems in managing the drinking water for aesthetic considerations, such as taste, color, and odor. These contaminants are not considered to present a risk to human health at the Secondary Maximum Contaminant Level (SMCL). The link to the EPA's website describing this is:

https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals