



**Presented By**  
**Town of Norton**  
**Water/Sewer Department**

ANNUAL  
**WATER  
QUALITY  
REPORT**

WATER TESTING PERFORMED IN 2017



## Quality First

Once again, we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies. Be assured, we are building a 2.5-million gallon/day treatment facility that is anticipated to be running by fall 2019. We continue to flush our system twice a year to maintain our distribution system.

For more information about this report, please call Bernard E. Marshall, Superintendent, at (508) 285-0282.

### Source Water Assessment and Protection



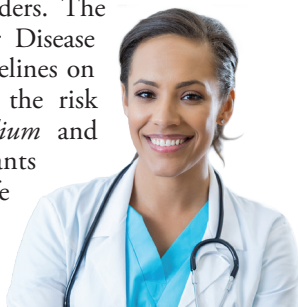
The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to inventory land uses within the recharge areas of all public water supply sources; to assess the susceptibility of drinking water sources to contamination from these land uses; and to publicize the results to provide support

for improved protection.

A susceptibility ranking of “high” was assigned to this system using the information collected during the assessment by the Department of Environmental Protection (DEP). The complete SWAP report is available at the Norton Water and Sewer Department or online at [www.mass.gov/eea/docs/dep/water/drinking/swap/sero/swap-sero.pdf](http://www.mass.gov/eea/docs/dep/water/drinking/swap/sero/swap-sero.pdf). For more information, contact Bernard E. Marshall, Superintendent, at (508) 285-0282.

### Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



### What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.



According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish. To check out your own water footprint, go to <http://goo.gl/QMoIXT>.

## Substances That Could Be in Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribes regulations limiting 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, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 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. Substances 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, or wildlife; Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 which may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



Water treatment is a complex, time-consuming process.

## Where Does My Water Come From?

The Town of Norton's drinking water supply is ground water, which comes from the Canoe River Aquifer, located within the Taunton River Basin. The ground water is the highest quality water available to meet the public health demand of water intended for human consumption. Demand for good drinking water is high; we provided approximately 1.18 million gallons of drinking water each day during 2017.

Our distribution system consists of five gravel-packed wells located on Pine, Plain, and Newland Streets; four storage facilities that store a combined amount of 5.85 million gallons of water (state regulations require a one-day minimum of water storage supply), and approximately 150 miles of water main. The wells are located within our Water Resource Protection District, an essential tool for protecting our water source. The Town established and accepted our district and our bylaws in 1980; they have since been incorporated into the Town's Zoning By-Laws. Use of any irrigation sprinklers in Norton is STRICTLY PROHIBITED.

## Treatment Update

Mass DEP asked Norton Water to notify its customers to increase our corrosion control, because we missed our target pH of 7.9. Norton Water was in compliance of the Lead and Copper Rule, however, an increase in pH was deemed necessary to increase the effectiveness of corrosion control treatment. A notice was advertised in the local paper on June 8, 2017, and placed on the Town Web Page. There were no violations of the Lead and Copper Rule, and Norton Water has been sampling and reporting accordingly.

## Lead in Home Plumbing

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. We are 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 [www.epa.gov/lead](http://www.epa.gov/lead).

## Community Participation



You are invited to participate and voice your concerns about your drinking water. Our regularly scheduled meetings are held twice a month. Meeting schedules and times are posted with the Town, or contact the Norton Water and Sewer Department directly at (508) 285-0280.



## BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

**34**  
BILLION

**1**  
MILLION

The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

**135**  
BILLION

**300**  
MILLION

The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

**2**  
BILLION

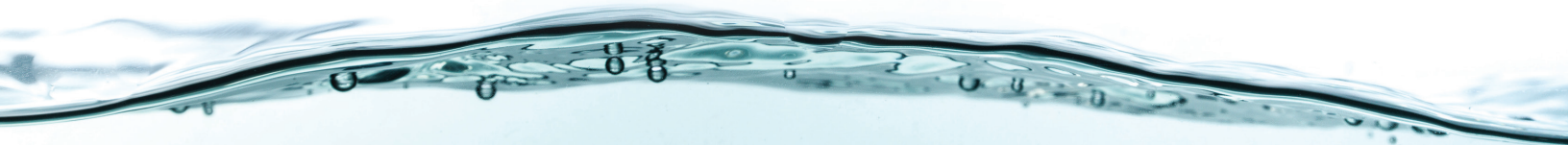
**151**  
THOUSAND

The number of active public water systems in the U.S.

The number of highly trained and licensed water professionals serving in the U.S.

**199**  
THOUSAND

**93** The number of federally regulated contaminants tested for in drinking water.



## Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring 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.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Haloacetic Acids [HAA]</b> (ppb)	2017	60	NA	9.6	1.5–26	No	By-product of drinking water disinfection
<b>Nitrate</b> (ppm)	2017	10	10	2.21	0.15–2.21	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Perchlorate</b> (ppb)	2017	2	NA	0.10	0.06–0.10	No	Inorganic chemicals used as oxidizers in solid propellants for rockets, missiles, fireworks, and explosives
<b>TTHMs [Total Trihalomethanes]</b> <sup>1</sup> (ppb)	2017	80	NA	70	21.5–94.4	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
<b>Copper</b> (ppm)	2017	1.3	1.3	0.80	2/120	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Lead</b> (ppb)	2017	15	0	8	4/120	No	Corrosion of household plumbing systems; Erosion of natural deposits

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	EXCEEDANCE	TYPICAL SOURCE
<b>Manganese</b> <sup>2</sup> (ppb)	2017	50	NA	416	0.01–416	Yes	Leaching from natural deposits

### UNREGULATED SUBSTANCES<sup>3</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
<b>Bromochloromethane</b> (ppb)	2017	0.0	NA	By-product of drinking water disinfection
<b>Bromodichloromethane</b> (ppb)	2017	3.6	0–3.6	By-product of drinking water disinfection
<b>Chlorodibromomethane</b> (ppb)	2017	3.2	0–3.2	By-product of drinking water disinfection
<b>Chloroform</b> (ppb)	2017	2.8	0–2.8	By-product of drinking water disinfection

<sup>1</sup>Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

<sup>2</sup>Drinking water may naturally contain manganese and, when concentrations are greater than 50 ppb, the water maybe discolored and taste bad. Over a lifetime, the EPA recommends that people limit their consumption of water with levels over 1,000 ppb, primarily due to concerns about the possible neurological effects. Children up to one year of age should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for longer than 10 days.

<sup>3</sup>Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

## Definitions

**90th 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.

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

**LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

**MCL (Maximum Contaminant Level):** 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.

**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.

**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 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.

**NA:** Not applicable

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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