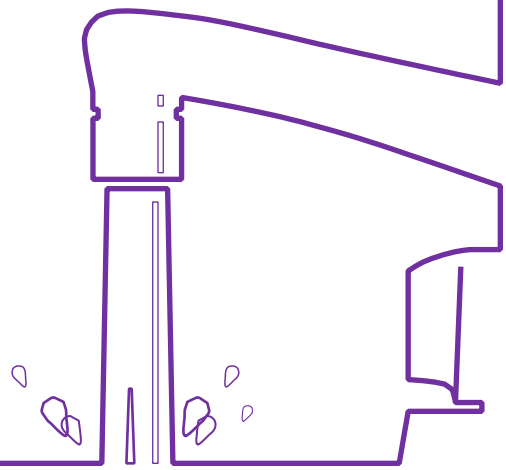
# Town of Wrentham
# Annual Water Quality Report
# 2017

Important information about your Drinking Water

PWS ID# 4350000



**The Quality of Your Drinking Water** - The Wrentham Department of Public Works (PWS No. 4350000) is committed to providing our customers with high quality drinking water that meets or surpasses state and federal standards for quality and safety. To ensure delivery of a quality product, we have made significant investments in treatment facilities, water quality monitoring, and the distribution system. We are pleased to report the results of our 2017 water testing to inform you about your drinking water. Each year you will receive a postcard directing you to our water quality report on the town website, copies will be available at public buildings and upon request.

**Wrentham's Water System** - Our water system includes five groundwater supply wells, treatment facilities for the entire groundwater supply, three water storage tanks, and approximately 94 miles of water main piping. In addition, the town maintains six emergency interconnections with neighboring water distribution systems, including two with the Town of Norfolk, one with the Town of Foxborough, and one with the Town of Franklin. The other two connections are with the Wrentham Development Center (WDC), which operates the Wrentham State School. The Town of Wrentham supplied the Town of Norfolk with 0.675 million gallons of water through the Shears Street interconnection during 2017 to supplement their water supply.

**Wrentham's Water Treatment** - In order to meet state and federal requirements for public drinking water, our source water receives the following treatment before it is supplied to our customers. We treat our water for corrosion control and disinfection as detailed in the table below. The pH of the water is raised with potassium hydroxide to reduce its corrosivity in household plumbing. Ultraviolet light is used for disinfection of the water from the wells. Chlorine is used for disinfection of the distribution system.

| Treatment | Treatment Facility #3<br>Wells #2 & #3 | Treatment Facility #4<br>Wells #4 & #6 | Treatment Facility #5<br>Well #5 |
|---|---|---|---|
| pH Adjustment for Corrosion Control | X | X | X |
| Chlorine for Disinfection | X | X | X |
| Ultraviolet Light for Disinfection | X | X | X |

**Any Questions?** Want to know more about the Wrentham water supply system or interested in participating in the decision-making process? Please call John Rivers, Water Division Manager, at the Wrentham Department of Public Works at 508-384-5477 with any questions, comments, or concerns. We are located at 360 Taunton Street and encourage all customers to attend and participate in the Board of Selectmen meetings every 1st and 3rd Tuesday of the month at 6:45 P.M. at Town Hall, 79 South Street and Town Meetings.

**Water Rates** - The rates are a $30.00 Administrative Charge per bill, $5.05 per thousand gallons or $0.005 per gallon of water used up to 50,000 gallons and $6.05 per thousand gallons or $0.006 per gallon of water used over 50,000 gallons.

**Water Demands** - In 2017 the Wrentham Department of Public Works pumped 355.275 million gallons of water into the distribution system. The highest amount pumped in one day was 1.916 million gallons on September 1, 2017.

**SWAP** - What is SWAP? The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to potential contamination by microbiological pathogen and chemicals

What is my system's ranking? A susceptibility ranking of high was assigned to this system using the information collected during assessment by the DEP. The wells are located in aquifers with high vulnerability to contamination due to the absence of hydrogeological barriers (i.e. clay) that can prevent the migration of contamination.

Where can I see the SWAP report? The complete SWAP report is available at the Wrentham Department of Public Works office or http://www.wrentham.ma.us/files/Wrentham Website Files/Public Works/Water Division/Water Quality Reports/SWAP Report_PWS ID-4350000.pdf for more information; call John Rivers at 508-384-5477.

**Water Quality Summary** - Listed below are contaminants detected in Wrentham's drinking water in 2017 or within the last 3 years if we were not required to test in 2017 for a previously detected contaminant. Not listed are over 100 other contaminants for which we tested but did not detect.

**- - - - - - - - - - - - - - - - - Samples Collected from the Five Well Supplies - - - - - - - - - - - - - - - - -**

| Substance (Contaminant) | Units | Highest Level Detected | Range of Detection | Highest Level Allowed (EPA's MCLs) | Ideal Goals (EPA's MCLGs) | Sources of Contaminant |
|---|---|---|---|---|---|---|
| **Inorganic Contaminants** | | | | | | |
| Nitrate | ppm | 1.82 | 0.62 - 1.82 | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits |
| Nitrite | ppm | ND | ND | 1 | 1 | Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits |
| Barium (2) | ppm | 0.029 | 0.011 - 0.029 | 2 | 2 | Discharge of drilling wastes and/or metal refineries; erosion of natural deposits. |
| Nickel (2,3) | ppb | 1.8 | ND - 1.8 | 100 | UR | Erosion of natural deposits |
| Sodium (1,2) | ppm | 58 | 34 - 58 | UR | UR | Naturally present in the environment |
| Perchlorate | ppb | 0.17 | 0.07 - 0.17 | 2 | N/A | Rocket propellants, fireworks, munitions, flares, blasting agents |
| Turbidity (5) | NTU | 0.8 | 0.1 - 0.8 | UR | UR | Soil runoff |
| Sulfate | ppm | 8.62 | 6.79- 8.62 | 250 | UR | Erosion of natural deposits |
| Iron (6) | ppb | 70 | ND - 70 | 300 | UR | Erosion of natural deposits |
| Manganese (7) | ppb | 37 | ND - 37 | 50 | UR | Erosion of natural deposits |
| Zinc | ppb | 0.02 | ND - 0.02 | 5 | UR | Erosion of natural deposits |
| **Radionuclides** | | | | | | |
| Alpha Emitters | pCi/L | 1.1 | 0 - 1.1 | 15 | 0 | Erosion of natural deposits |

| | | | | | | |
|---|---|---|---|---|---|---|
| Combined Radium | pCi/L | 0.2 | 0 - 0.2 | 5 | 0 | Erosion of natural deposits |

**- - - - - - - - - - - - - - - Samples Collected from the Water Distribution System - - - - - - - - - - - - - - -**

| Substance (Contaminant) | Units | Highest Level Detected | Range of Detection | Highest Level Allowed (EPA's MCLs) | Ideal Goals (EPA's MCLGs) | Sources of Contaminant |
|---|---|---|---|---|---|---|
| **Microbiology** | | | | | | |
| Total Coliform Bacteria (Highest Number of Detections per Month) | | 3 | ND - 6 | 1 | 0 | Naturally present in the environment |
| **Disinfectants and Disinfection By-Products** | | | | | | |
| Chlorine (9) | ppm | 0.17 | 0 - 0.73 | 4 | 4 | Water additive used to control microbes |
| Haloacetic Acids | ppb | 2.66 | ND - 2.66 | 60 | ----- | Byproduct of drinking water disinfection |
| Total Trihalomethanes | ppb | 20.7 | ND - 20.7 | 80 | ----- | Byproduct of drinking water chlorination |
| **Volatile Organic Contaminants** | | | | | | |
| Tetrachloroethylene | ppb | 1 | ND – 1.0 | 5 | 0 | Discharge from factories, dry cleaners, asbestos cement lined pipes |

**- - - - - - - - - - - - - - - - - - - Samples Collected from Your Faucets - - - - - - - - - - - - - - - - - - -**

| Substance (Contaminant) | Units | 90th Percentile | Range of Detection | Action Level (EPA's MCLs) | Ideal Goals (EPA's MCLGs) | Sources of Contaminant |
|---|---|---|---|---|---|---|
| **Inorganic Contaminants** | | | | | | |
| Copper (2,8) | ppm | 0.19 | 0.04 - 0.27 | 1.3 | 1.3 | Corrosion of household plumbing systems |
| Lead (2,8) | ppb | 3 | ND - 4 | 15 | 0 | Corrosion of household plumbing systems |

Definitions - **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.

**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.

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

**Massachusetts Office of Research and Standards Guidelines (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, with a margin of safety. If exceeded, it serves as an indicator of the potential need for further action.

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

**90th Percentile** – Out of every 10 homes, 9 were at or below this level.
**ppm** – One part per million; one part per million is equivalent to $1 in $1,000,000.
**ppb** – One part per billion; one part per billion is equivalent to $1 in $1,000,000,000.
**pCi/L** – Picocuries per liter is a measure of the radioactivity in water.
**ND** – Substance not detected in the sample.
**UR** – Unregulated.
**NTU** – Nephelometric turbidity units

(1) The ORSG for sodium is 20 ppm. Above this level, sodium sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the levels of sodium in their drinking water where exposures are carefully being controlled.
(2) The state allows us to monitor for some contaminants less than once year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.
(3) The ORSG for nickel is 100 ppb.
(4) The SMCL for sulfate is 250 ppm.
(5) Turbidity is a measure of cloudiness of the water. We monitor it because it is a good indicator of water quality.
(6) The SMCL for iron is 300 ppb.
(7) ORSG has set a secondary maximum contaminant level of 50 ppb, and a health advisory of 300 ppb for manganese to protect against concerns of potential neurological effects.
(8) The action level was not exceeded in any of the 30 samples.
(9) This is a running annual average.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. One Level 1 Assessments was completed. In addition, we were required to take one corrective action and we completed this action.

**Lead** - 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 Wrentham Department of Public Works 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 (800-426-4791) or at http://www.epa.gov/safewater/lead.

**The Substances Found in Your Tap Water** - 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. 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.

**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.

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

**Radioactive contaminants** 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 Department of Environmental Protection (DEP) and 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 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 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 EPA's Safe Drinking Water Hotline (800-426-4791).

**Is Our Water Safe for Everyone?** 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. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

**Cross Connection Education** A cross connection is a connection between a drinking water pipe and a potential polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You 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) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. An attachment on your hose called a backflow-prevention device can prevent this problem.

The Wrentham Department of Public Works recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this 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 your town! For additional information on cross connections and on the status of your water systems cross connection program, please contact Christopher Cassidy at the Wrentham Department of Public Works office 508-384-5477.