We aim to continually improve and strengthen our system each year so we can provide our customers with a sustainably reliable high quality drinking water source and system. Some of the activities DPI completed in 2019 include:

- 68 lead services replaced by DPI.
- 463 lead services replaced by Phase I of lead service replacement program
- 1,700 linear feet of water main replaced.
- 428 valves inspected & exercised.
- 47 hydrants repaired/replaced/installed.
- 13 water main breaks and leaks repaired.
- 36 distribution main gate valves replaced.
- 3,812 hydrants flushed.
- Completed thinning of 25 acres of woodlands in watershed to maintain health of the forest.
- Completed leak detection survey for 300 miles of water main.
- Continued Large Water Meter Replacement and Meter Upgrade project:
  - 19,068 Meter MIU’s replaced.
  - 129 Large meters surveyed.
- Continued High Hill 75 MG Reservoir Rehabilitation project:
  - 26 transmission main gate valves replaced.
  - 700 linear feet of transmission main installed.
- Continued Upgrades to Quittacas Water Treatment Plant:
  - Replaced all raw and finished water pumps, motors and drives.
  - Replaced Lime and Soda Ash chemical feed systems for corrosion control.
The Massachusetts Department of Environmental Protection (MassDEP), through its Source Water Assessment and Protection (SWAP) Program, assesses the susceptibility of public water supplies. The SWAP report notes some issues situated in New Bedford’s public water supply protection area. The issues are active cranberry bogs and small farms, roadways, a utility right of way, and residential land uses. As a result, the report designates a high susceptibility ranking to the water supply protection area. New Bedford DPI has been proactive in protecting the water supply protection area. The City owns over 3,000 acres of land in this area; including all shoreline property around the Little and Great Quittacas Ponds (with miles of walkable trails!). This land is kept in pristine condition, providing a protective barrier from potential pollutants. Forest management, overseen by a State certified forester, is ongoing. The land is routinely patrolled by watershed staff and reports are submitted to a watershed advisory committee. Regular testing of the water supply is performed and treatment is provided by the State certified operations staff at the Quittacas Water Treatment Plant, producing safe, clean drinking water for the residents of the City of New Bedford. The complete SWAP report is available at the New Bedford DPI office at 1105 Shawmut Avenue New Bedford, MA. 02746, or online at: https://www.mass.gov/doc/southeast-region-source-water-assessment-protection-swap-program-reports/download
This table shows the results of our water quality analysis. Every regulated contaminant that we detected in the New Bedford Water Supply, even in the most insignificant traces is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contaminant, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important. The data present in this report is from testing performed in 2019 or otherwise indicated. All testing was done in accordance with drinking water regulations.

### REGULATED CONTAMINANTS

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>MEETS MCL</th>
<th>RANGE DETECTED</th>
<th>AVERAGE</th>
<th>MCLG</th>
<th>MCL</th>
<th>SAMPLE DATE</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trihalomethanes 1,2 (ppb)</td>
<td>Yes</td>
<td>29.9 - 56.0</td>
<td>42.5</td>
<td>N/A</td>
<td>80</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Haloacetic Acids 1,2 (ppb)</td>
<td>Yes</td>
<td>29.9 - 82.0</td>
<td>46.8</td>
<td>N/A</td>
<td>60</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Total Chlorine Residual 2,3 (ppm)</td>
<td>Yes</td>
<td>0.71 - 3.06</td>
<td>1.76</td>
<td>MRLG</td>
<td>MRLG</td>
<td>4</td>
<td>2019</td>
</tr>
<tr>
<td>Total Organic Carbon (ppm)</td>
<td>Yes</td>
<td>2.39 - 3.10</td>
<td>2.63</td>
<td>N/A</td>
<td>TT</td>
<td>2019</td>
<td>Naturally present in the environment.</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>Yes</td>
<td>0.05 - 0.21</td>
<td>0.09</td>
<td>N/A</td>
<td>TT</td>
<td>4</td>
<td>2019</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>N/A</td>
<td>23.3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>2019</td>
<td>Naturally source; runoff from use as salt on roadways; by-product of corrosion control.</td>
</tr>
<tr>
<td>Total Coliform 6 (% of monthly positive samples)</td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>2019</td>
<td>Naturally present in the environment.</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>Yes</td>
<td>0.008</td>
<td>N/A</td>
<td>2</td>
<td>2</td>
<td>2019</td>
<td>Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>Yes</td>
<td>0.5 - 0.8</td>
<td>0.7</td>
<td>4</td>
<td>4</td>
<td>2019</td>
<td>Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.</td>
</tr>
<tr>
<td>Combined Radium (pCi/L)</td>
<td>Yes</td>
<td>1.2</td>
<td>N/A</td>
<td>0</td>
<td>5</td>
<td>2015</td>
<td>Erosion of natural deposits.</td>
</tr>
<tr>
<td>Nitrate (ppm)</td>
<td>Yes</td>
<td>0.106</td>
<td>N/A</td>
<td>10</td>
<td>10</td>
<td>2019</td>
<td>Run-off from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.</td>
</tr>
</tbody>
</table>

**Addition of Fluoride:** As directed by the New Bedford Health Department, Fluoride has been added to the New Bedford Drinking Water supply since 2007 with an optimum dosage of 0.7 parts per million (ppm). Fluoride also has a secondary maximum contaminant level (SMCL) of 2 ppm.

### SECONDARY CONTAMINANTS

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>AVERAGE</th>
<th>RANGE DETECTED</th>
<th>SMCL</th>
<th>HEALTH ADVISORY</th>
<th>SAMPLE YEAR</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese 8 (ppb)</td>
<td>N/A</td>
<td>16</td>
<td>50</td>
<td>500</td>
<td>2019</td>
<td>Erosion of natural deposits.</td>
</tr>
<tr>
<td>Aluminum (ppb)</td>
<td>299</td>
<td>131 - 468</td>
<td>200</td>
<td>N/A</td>
<td>2019</td>
<td>Residue from water treatment process; erosion of natural deposits.</td>
</tr>
</tbody>
</table>

### UNREGULATED CONTAMINANTS 9

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>AVERAGE</th>
<th>RANGE DETECTED</th>
<th>SAMPLE YEAR</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorate (ppb)</td>
<td>110</td>
<td>71 - 150</td>
<td>2016</td>
<td>By-product of drinking water chlorination.</td>
</tr>
<tr>
<td>Chloriform (ppb)</td>
<td>N/A</td>
<td>14.1</td>
<td>2019</td>
<td>By-product of drinking water chlorination.</td>
</tr>
<tr>
<td>Bromodichloromethane (ppb)</td>
<td>N/A</td>
<td>2.7</td>
<td>2019</td>
<td>By-product of drinking water chlorination.</td>
</tr>
<tr>
<td>Monochloroacetic Acid (ppb)</td>
<td>1.25</td>
<td>N.D. - 2.85</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Monobromoacetic Acid (ppb)</td>
<td>0.23</td>
<td>N.D. - 1.82</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Dichloroacetic Acid (ppb)</td>
<td>23.8</td>
<td>15.9 - 29.0</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Trichloroacetic Acid (ppb)</td>
<td>13.4</td>
<td>12.2 - 13.9</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Bromochloroacetic Acid (ppb)</td>
<td>2.74</td>
<td>2.46 - 2.87</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Dibromoacetic Acid (ppb)</td>
<td>0.04</td>
<td>N.D. - 0.31</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Bromodichloroacetic Acid (ppb)</td>
<td>2.02</td>
<td>1.26 - 2.27</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Chlorodibromoacetic Acid</td>
<td>0.04</td>
<td>N.D. - 0.31</td>
<td>2019</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Manganese (ppb)</td>
<td>14.4</td>
<td>8.0 - 25.9</td>
<td>2019</td>
<td>Erosion of natural sources.</td>
</tr>
<tr>
<td>Piperonyl Butoxide 10 (ppb)</td>
<td>0.01</td>
<td>0.009 - 0.02</td>
<td>2019</td>
<td>Deposition and run-off from pesticide application for mosquitoes.</td>
</tr>
</tbody>
</table>
Some people who drink water-containing trihalomethanes or haloacetic acids 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; (2) The MCL and average results are based on the highest Running Annual Average, the range detected represents individual sample results; (3) The DPI commenced treatment of its filtered water with combined chlorine (chlorine and ammonia) as of November 4, 2002. This is measured in terms of total chlorine. (4) Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Compliance is based on a TT, with no individual samples exceeding 1.0 NTU and 95% of samples/month less than 0.3 NTU. The lowest monthly percentage of samples meeting the limit was 100%. (5) The MassDEP maintains a guideline level of 20 ppm for Sodium; (6) Of the 109 samples collected per month, all samples indicated the absence of total coliform. (7) In 2019, 30 samples were collected for lead analysis. (8) US EPA and MassDEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects and a on-day and 10-day HA of 1,000 ppb for acute exposure. (9) Unregulated contaminants are those for which the EPA has not established Drinking Water Standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining their occurrence in drinking water and whether future regulation is warranted. (10) US EPA Office of Pesticide Programs Human Health Benchmark for Pesticides is 992 ppb. Consumption of Piperonyl Butoxide in drinking water for many years at very high concentrations could result in effects on the liver and may possibly increase the risk of cancer.

**FOOTNOTES**

(1) Some people who drink water-containing trihalomethanes or haloacetic acids 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; (2) The MCL and average results are based on the highest Running Annual Average, the range detected represents individual sample results; (3) The DPI commenced treatment of its filtered water with combined chlorine (chlorine and ammonia) as of November 4, 2002. This is measured in terms of total chlorine. (4) Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Compliance is based on a TT, with no individual samples exceeding 1.0 NTU and 95% of samples/month less than 0.3 NTU.

**TERMS AND ABBREVIATIONS**

MCLG (Maximum Contamination 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.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLGs as feasible using the best available treatment.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant, below which, there is no known expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MRDL (Maximum Residual Disinfectant Level): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

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

90th Percentile: Ninety percent of the samples is below this level. (nine of ten sites samples were at or below this level). This number is compared to the Action Level to determine lead and copper compliance.

N/A: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppm (parts per million): One part substance per million parts water or milligrams per liter (mg/l).

ppb (parts per billion): One part substance per billion parts water or micrograms per liter (ug/l).

pCi/L (picocuries per liter): A measure of radioactivity.

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

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

TT (Treatment Technique): A process aimed to reduce the level of a contaminant 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. New Bedford DPI 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 cold water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Lead testing kits can be purchased at DPI. 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), at http://www.epa.gov/safewater/lead.

Infants and children who consume water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight defects in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

The New Bedford DPI has a lead information website for residents to verify if they have a lead service and obtain information on replacing it at http://www.newbedford-ma.gov/public-infrastructure/lead-water-service-lookup/. The DPI is now more aggressively replacing lead service lines in house and with the assistance of subcontractors as part of the lead service line replacement program. At the Water Treatment Plant, corrosion control treatment has been optimized to minimize leaching of lead from the piping into the water. Continued sampling and testing for lead is ongoing to monitor the levels in the drinking water. If you are interested in replacing your lead service line, contact the New Bedford DPI at (508) 979-1550.
To ensure that tap water is safe to drink, MassDEP and EPA prescribe limits on the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that 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 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).

The sources of drinking water (both tap & bottled) 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 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 & bacteria, this may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**INORGANIC CONTAMINANTS**
such as salts & metals, this 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 agriculture, storm water runoff and residential uses.

**ORGANIC CHEMICALS**
which include synthetic and volatile organics 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**
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. Immune-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/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).
"WHEN THE WELL IS DRY, WE KNOW THE WORTH OF WATER."

BENJAMIN FRANKLIN

WATER IS PRECIOUS! CONSERVE!

- Fix leaks! Leaks can add up to hundreds of gallons of water lost per week.
- Water your lawns in early mornings or evenings, to reduce evaporation.
- Choose native plants that need less water.
- Sweep outdoor areas with a broom rather than hosing them off.
- Use water-saving showerheads.
- Wash only full loads of laundry and dishes.
- Choose high-efficiency plumbing products.
- Reuse clean household water for plants.
- Make sure your sprinklers are watering the plants and not the pavement!

WHAT ARE CROSS CONNECTIONS?

Cross-connections occur whenever a potable drinking water line is directly or indirectly connected to equipment (boilers), chemical systems (AC, fire sprinklers, irrigation), or any non-potable water. Contamination can occur when the pressure in the equipment or system is greater than the drinking water line pressure (backpressure) or if there is a drop in pressure in the water system (main break), causing suction out of the equipment or system into the drinking water line (backsiphonage). Severe illnesses and injuries, even death, have been caused by cross connection contamination events that could have been prevented.

Garden hoses left lying on the ground (near fertilizers, cesspools, or garden chemicals), connected to chemical sprayers or submerged in pools are a common source of cross-connection contamination. Improperly installed toilet valves can also be a cause of contamination.

We have surveyed industrial, commercial and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also have a backflow inspection program to provide maximum protection. For more information on backflow prevention, contact the Safe Drinking Water Hotline (800-426-4791).
Questions or Comments:
Do you have questions about information in this report? If you do, please contact ymane galotti, Superintendent of Water, at ymane.galotti@newbedford-ma.gov. We encourage public interest and participation in our community's decisions affecting drinking water. Find out more about the Department of Public Infrastructure on the City's website at www.newbedford-ma.gov. Water Quality Data for community water systems throughout the United States is available at www.waterdata.com.

Spanish - Este informe contiene información muy importante sobre su agua beber. Tradúzalo o hable con alguien que lo entienda bien.

French - Ce rapport contient des informations concernant la qualité de l'eau de votre communauté. Faites-le traduire, ou parlez-en a un ami qui le comprend bien.