

# 2020

## City of Melbourne

### ANNUAL DRINKING WATER QUALITY REPORT

# 2020

## The Importance of Water Conservation



*Conserving water means using our water supply wisely and responsibly. Here are the reasons why saving water is important:*

### The Uses Are Endless

We use water every day of our lives. It is required in almost everything we do. We need water for drinking, bathing, cooking, washing, flushing the toilet and countless other activities.

### Water Grows Food

Fruits and vegetables, as well as other produce, require water to grow. Good irrigation and easy availability of water affect the quality of crops and the price at which the food is sold. If an area is suffering from a drought, crops are affected.

### It Protects Our Ecosystem And Wildlife

Humans are not the only species on earth that requires water for survival. In fact, every species on this planet needs water to live and survive. It is highly important that we save water that is essential to our sustainability.

### Less Water Usage Means More Savings

By practicing basic water conservation techniques, you can save thousands of gallons each year. Use less water, and you will be charged less money.

### Conserving Water Also Saves Energy

Energy is required to run the equipment that treats and pumps water from the treatment facilities to your home or business. Saving water will lead to saving energy and a reduced carbon footprint. We can start saving water by making smart choices at home. This includes using plumbing fixtures and appliances that are the most water and energy efficient.

Water conservation measures are an important step in protecting our water supply. Such measures help preserve the supply of our source water and can save you money by reducing your water bill. You can find much more information on water conservation at [www.sjrwmd.com/water-conservation](http://www.sjrwmd.com/water-conservation).



## For More Information

Melbourne Public Works & Utilities Department • (321) 608-5000

U.S. EPA Safe Drinking Water Hotline • (800) 426-4791

You can also visit the EPA's drinking water web page at [www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information](http://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-information) or visit Melbourne's web site at: [www.melbourneflorida.org](http://www.melbourneflorida.org)

## Other Customer Service Phone Numbers

City Hall Switchboard • (321) 608-7000

Water Production • (321) 608-5700

Utility Billing • (321) 608-7100

Water & Wastewater Operations • (321) 608-5100

After-Hours Water or Wastewater Emergencies • (321) 255-4622

## City of Melbourne



## ANNUAL DRINKING WATER QUALITY REPORT





## We Are Pleased To Provide You With This Year's Annual Drinking Water Report

This water quality report contains detailed information about your drinking water, the steps we take to ensure its safety, the results of the sampling and testing we conducted during 2019, and how we are working to conserve this resource for future generations.

The top priority of the City of Melbourne is to deliver clean, safe, dependable, great-tasting water to our approximately 165,000 consumers. Our state-certified lab conducts thousands of chemical and bacteriological water quality tests each year to monitor for all contaminants in your drinking water according to federal and state laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2019. Data obtained before January 1, 2019 and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

## How To Obtain A Copy Of This Report

This water quality report, also known as a consumer confidence report, is produced annually in accordance with both federal and state requirements.

This report will be mailed to customers upon request by calling 321-608-5080. It is also available at Melbourne City Hall, 900 E. Strawbridge Avenue, Melbourne, FL 32901 and all public libraries in our water service area. For more information about this report, for questions relating to your drinking water, or for additional hard copies of this report, please go to [www.melbourneflorida.org/waterqualityreport](http://www.melbourneflorida.org/waterqualityreport), or call 321-608-5080 or email [waterqualityreport@mlbfl.org](mailto:waterqualityreport@mlbfl.org). You can obtain additional information from the EPA at their Safe Drinking Water Hotline (800-426-4791).

## Melbourne's Drinking Water Sources

Source water includes Lake Washington and the Floridan Aquifer. Lake Washington is part of the St. John's River, the largest river in Florida. The water from the lake, also known as surface water, is treated using the Actiflo process at the John A. Buckley Surface Water Treatment Plant. Chloramines are used as a disinfectant and are formed when ammonia is added to chlorine to treat drinking water. Chloramine provides long-lasting disinfection as the water moves through pipes to consumers. Ozone is used to reduce the potential for disinfection byproducts.

The Floridan Aquifer is an extensive underground water source that covers 100,000 square miles in all of Florida and parts of Alabama, Georgia and South Carolina. Melbourne's Joe Mullins Reverse Osmosis Water Treatment Plant is supplied by four Floridan Aquifer system wells. The brackish water from the wells is treated with a reverse osmosis filtering process to remove salts and impurities.

The treated groundwater is blended with the treated surface water. This blended water, after disinfection, is then distributed to our consumers. Chloramine booster stations in the water distribution system ensure that adequate levels of disinfection are maintained throughout the system. Melbourne has a permitted water production capacity of 25 million gallons per day; however, on a typical day, demand for water is about 16 million gallons per day.



## Treated Water Quality Terms to Know

In the water quality data table you will find many terms and abbreviations with which you might not be familiar. To help you better understand these terms, please refer to the following definitions:

**Non Detects (ND):** Not detected and indicates that the substance was not found by laboratory analysis.

**Maximum Contaminant Level or 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 or 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.

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

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

**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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

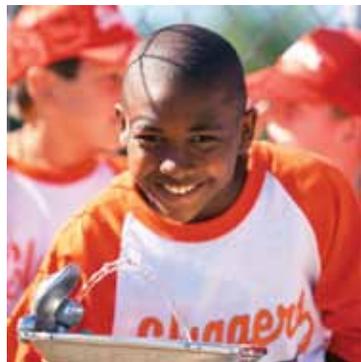
**Parts per Billion (ppb) or Micrograms per Liter ( $\mu\text{g}/\text{l}$ ):** One part by weight of analyte to 1 billion parts by weight of the sample.

**Parts per Million (ppm) or Milligrams per Liter ( $\text{mg}/\text{l}$ ):** One part by weight of analyte to 1 million parts by weight of the water sample.

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

**N/A:** Not applicable





## Substances That Might Be 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 City of Melbourne Public Works & Utilities 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 two 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>.

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.

## 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, and wildlife.

**Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or 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 can also come from gas stations, urban stormwater 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 EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) 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 contaminants 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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 (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



## Source Water Assessment

In 2019, the Department of Environmental Protection performed a Source Water Assessment (SWA) on our system. This assessment was conducted to provide information about any potential sources of contamination in the vicinity of our groundwater wells and surface water intakes. There are four potential sources of contamination identified for the groundwater system with low susceptibility levels. The surface water system susceptibility level is considered to be high risk due to the many potential sources of contamination identified. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

## EPA Information

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that another potentially harmful waterborne pathogen may be present, or that a potential pathway exists through which contamination may enter the drinking water distribution system.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Bimonthly sampling of our source water in 2016 did not indicate the presence of these organisms.

Haloacetic acids (five) (HAA5): Some people who drink water containing haloacetic acids in excess of the maximum contaminant level (MCL) over many years may have an increased risk of getting cancer.

Acrylamide was added to the 2019 reporting table. Acrylamide is found in the polymer used as a coagulant to aid in the process to remove total dissolved solids from raw lake water. Increased use of polymer in July 2019 due to the algal bloom in Lake Washington met the threshold to report based on the standard calculation of the dose used to treat surface water. Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. High turbidity can hinder the effectiveness of disinfectants.



## Community Education and Outreach

Education and outreach activities are an important part of our mission. We realize the importance of communicating with the public about our water quality, conservation and on-going improvement projects. We reach hundreds of students each year about the importance of water conservation and how they can personally take steps to reduce wasting water. We have rebate programs in place to financially assist our customers with water-saving measures in their homes. New customer kits include water conservation brochures, and many other activities are conducted throughout the year to advance this cause. If you are interested in having someone speak to your class, civic group, community organization or homeowners' association about our water quality, treatment processes, conservation or other topics, please contact the Environmental Community Outreach (ECO) Division at (321) 608-5080.

## Microbiological Contaminants

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | MCL Violation Y/N | Highest Single Measurement Meeting Regulatory Limits | The Lowest Monthly % of Samples | MCLG | MCL | Likely Source of Contamination |
|-----------------------------------|-----------------------------|-------------------|--|---------------------------------|------|-----|--------------------------------|
| Turbidity (NTU)                   | 1/19 - 12/19                | Y                 | 0.69   | 99.5%                           | N/A  | TT  | Soil runoff                    |

## Inorganic Contaminants

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | MCL Violation Y/N | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination   |
|-----------------------------------|-----------------------------|-------------------|----------------|------------------|------|-----|--|
| Barium (ppm)                      | 1/19 - 12/19                | N                 | 0.0222         | N/A              | 2    | 2   | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits   |
| Cyanide (ppb)                     | 1/19 - 12/19                | N                 | 51.53          | ND - 51.53       | 200  | 200 | Discharge from steel/metal factories; discharge from plastic and fertilizer factories  |
| Fluoride (ppm)                    | 1/19 - 12/19                | N                 | 0.596          | N/A              | 4    | 4.0 | Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm |
| Nickel (ppb)                      | 1/19 - 12/19                | N                 | 2.70           | N/A              | N/A  | 100 | Pollution from mining and refining operations. Natural occurrence in soil  |
| Nitrate (as Nitrogen) (ppm)       | 1/19 - 12/19                | N                 | 0.0962         | N/A              | 10   | 10  | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits  |
| Sodium (ppm)                      | 1/19 - 12/19                | N                 | 93.1           | N/A              | N/A  | 160 | Salt water intrusion, leaching from soil   |

## Stage 1 Disinfectants and Disinfection By-Products

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | MCL or MRDL Violation Y/N | Level Detected | Range of Results | MCLG or MRDLG | MCL or MRDL | Likely Source of Contamination            |
|-----------------------------------|-----------------------------|---------------------------|----------------|------------------|---------------|-------------|---|
| Bromate (ppb)                     | 1/19 - 12/19                | N                         | 1.0            | ND - 12.3        | MCLG = 0      | MCL = 10    | By-product of drinking water disinfection |
| Chloramines (ppm)                 | 1/19 - 12/19                | N                         | 3.6            | 0.1 - 8.1        | MRDLG = 4     | MRDL = 4.0  | Water additive used to control microbes   |

For bromate and chloramines, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | TT Violation Y/N | Lowest Running Annual Avg., Computed Quarterly, of Monthly Removal Ratios | Range of Monthly Removal Ratios | MCLG | MCL | Likely Source of Contamination       |
|-----------------------------------|-----------------------------|------------------|---|---------------------------------|------|-----|--------------------------------------|
| Total organic carbon              | 1/19 - 12/19                | N                | 2.1   | 1.95 - 2.12                     | N/A  | TT  | Naturally present in the environment |

## Stage 2 Disinfectants and Disinfection By-Products

| Contaminant & Unit of Measurement    | Dates of sampling (mo./yr.) | MCL Violation Y/N | Level Detected | Range of Results | MCLG | MCL | Likely Source of Contamination            |
|--------------------------------------|-----------------------------|-------------------|----------------|------------------|------|-----|---|
| Haloacetic Acids (HAA5) (ppb)        | 1/19 - 12/19                | Y                 | 54.5           | 24.7 - 91.3      | N/A  | 60  | By-product of drinking water disinfection |
| Haloacetic Acids (HAA5) Site 1 (ppb) | 1/19 - 12/19                | Y                 | 54.5           | 31.7 - 91.3      | N/A  | 60  | By-product of drinking water disinfection |
| Haloacetic Acids (HAA5) Site 2 (ppb) | 1/19 - 12/19                | Y                 | 47.8           | 29.7 - 84.8      | N/A  | 60  | By-product of drinking water disinfection |
| Total Trihalomethanes (TTHM) (ppb)   | 1/19 - 12/19                | N                 | 46.0           | 12.5 - 65.3      | N/A  | 80  | By-product of drinking water disinfection |

## Lead and Copper (Tap Water)

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | AL Exceeded Y/N | 90th Percentile Result | No. of sampling sites exceeding the AL | MCLG | AL (Action Level) | Likely Source of Contamination   |
|-----------------------------------|-----------------------------|-----------------|------------------------|--|------|-------------------|--|
| Copper (tap water) (ppm)          | 7/17                        | N               | 0.14                   | 0                                      | 1.3  | 1.3               | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (tap water) (ppb)            | 7/17                        | N               | 2.1                    | 0                                      | 0    | 15                | Corrosion of household plumbing systems; erosion of natural deposits                                   |

## Acrylamide

| Contaminant | TT Violation Y/N | Level Detected | Range | MCLG | MCL | Likely Source of Contamination                    |
|-------------|------------------|----------------|-------|------|-----|---|
| Acrylamide  | Y                | N/A            | N/A   | 0    | TT  | Added to water during sewage/wastewater treatment |

The Acrylamide calculation is based on dosage

## Unregulated Contaminants

| Contaminant & Unit of Measurement | Dates of sampling (mo./yr.) | Level Detected (avg.) | Range        | Likely Source of Contamination            |
|-----------------------------------|-----------------------------|-----------------------|--------------|---|
| Germanium (ppb)                   | 1/19 - 12/19                | 0.16                  | ND-0.47      | Unknown                                   |
| Manganese (ppb)                   | 1/19 - 12/19                | 0.33                  | ND - 1.00    | Unknown                                   |
| Haloacetic Acids (HAA5) (ppb)     | 1/19 - 12/19                | 9.82                  | 5.81 - 13.35 | By-product of drinking water disinfection |
| Haloacetic Acids (HAA6Br) (ppb)   | 1/19 - 12/19                | 12.84                 | 4.05 - 21.93 | By-product of drinking water disinfection |
| Haloacetic Acids (HAA9) (ppb)     | 1/19 - 12/19                | 16.60                 | 9.89 - 27.53 | By-product of drinking water disinfection |