Substances That Might be in Drinking Water

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.

What’s Your Water Footprint?

The water footprint of an entity is defined as the total volume of freshwater that is used to produce the goods and services that are consumed or produced by the entity. 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 about 100 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.

To check out your own water footprint, go to www.watercalculator.org.
Continuing Our Commitment

We are pleased to present our annual Water Quality Report for testing completed from January 1, 2021, through December 31, 2021. The blended product from both the lime softening and Low Pressure Reverse Osmosis (LPRO) processes at the City's water plant provides our customers with the best quality of drinking water. The City is continually improving the systems in the Public Works Department and 2021 included some major projects. The Water Reclamation Facility (WRF) and the Water Treatment Plant (WTP) installed a new SCADA system to enhance both controls and monitoring of the plants. The new software allows the operators to better manage the complex treatment processes. The WRF rehabilitated the sand filters to improve their effectiveness. The WTP replaced the membranes in the LPRO to continue their efficient performance for years to come. These projects were budgeted to ensure the resilience and reliability of the water, wastewater and reuse systems for the residence of this great City.

Community Participation

You are invited to attend any of our City Commission meetings, normally scheduled the first and third Tuesday of each month, unless amended, and voice your concerns about your drinking water. The meetings are held at 22 South Beach Street, Ormond Beach, in the City Hall Commission Chambers. For more information on specific times and dates, please visit the City of Ormond Beach website at www.ormondbeach.org.

Important Health Information

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 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.

Where Does My Water Come From?

The City of Ormond Beach's primary water supply is from a groundwater source called the Floridan Aquifer. Covering a total of about 100,000 square miles, this aquifer is one of the major sources of groundwater in the United States. It underlies all of Florida, Southern Georgia, and small parts of adjacent Alabama and South Carolina. This underground reservoir is made up of mostly sand and limestone layers. Our source water contains a relatively high concentration of calcium and to a lesser extent, magnesium, typically referred to as hardness. The water is also high in total dissolved solids, iron, and contains significant amounts of the dissolved gases carbon dioxide and hydrogen sulfide. Our Eastern wellfield also contains significant levels of sodium.

The City of Ormond Beach currently operates 38 wells in five different wellfields producing the raw groundwater supply to the City's Water Treatment Facility, where it is treated to meet all drinking water standards. Our water supply is not exposed to air and is not subject to direct pollution and contamination that a river or a surface water reservoir experiences.

Source Water Assessment

In 2021 the Florida Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 16 potential sources of contamination identified for this system with low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at https://fldep.dep.state.fl.us/swapp/.

Water Conservation

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water but can also save you money by reducing your water bill. The City of Ormond Beach encourages conservation with adopted water conservation regulations promoting efficient irrigation practices and conservation rate pricing. As your usage escalates your price per 1,000 gallons does as well.

Inside Your Home:

1) Don’t use running water to thaw food. For water efficiency and food safety, defrost food in the refrigerator.
2) If your dishwasher is new, cut back on pre-rinsing. Newer models clean more thoroughly than older ones.
3) Consider buying a dual-flush toilet. It has two flush options: a half-flush for liquid waste and a full-flush for solid waste.
4) Run your washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
5) Make suggestions to your employer or school about ways to save water and money.

Outdoors:

1) Be sure your rain sensor works on the irrigation system. The rain sensor will not allow the system to water the lawn during a rain event.
2) Minimize evaporation by watering during the early morning hours when temperatures are cooler and winds are lighter.
3) Use a broom instead of a hose to clean patios, sidewalks and driveways, and save water every time.
4) Minimize or eliminate the use of waterfalls and sprays in your pool. Aeration increases evaporation.
During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are below the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. Certain contaminants are not monitored annually; in these cases the most recent sample data is included along with the month and year in which the sample was collected. We are pleased to report that our drinking water meets all federal and state requirements and, as presented in the tables below, our system had no violations.

### Sampling Results

#### Inorganic Contaminants

<table>
<thead>
<tr>
<th>Contaminant and Unit of Measurement</th>
<th>Date of Sampling (mo.yr.)</th>
<th>MCL or MRDL Violation (Yes/No)</th>
<th>Level Detected</th>
<th>Range of Results</th>
<th>MCLG</th>
<th>MCL</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoride (ppm)</td>
<td>03/20</td>
<td>No</td>
<td>0.60</td>
<td>N/A</td>
<td>4</td>
<td>4.0</td>
<td>Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum dose of 0.7 ppm</td>
</tr>
<tr>
<td>Nitrate (as Nitrogen) (ppm)</td>
<td>10/21</td>
<td>No</td>
<td>0.064</td>
<td>N/A</td>
<td>10</td>
<td>10</td>
<td>Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>03/20</td>
<td>No</td>
<td>0.0034</td>
<td>N/A</td>
<td>2</td>
<td>2</td>
<td>Discharge drilling wastes; discharge from metal refineries; erosion of natural deposits</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>03/20</td>
<td>No</td>
<td>39.3</td>
<td>N/A</td>
<td>N/A</td>
<td>160</td>
<td>Salt water intrusion, leaching from soil</td>
</tr>
</tbody>
</table>

#### Stage 2 Disinfectants and Disinfection By-Product (D/DBP)

<table>
<thead>
<tr>
<th>Disinfectant or Contaminant and Unit of Measure</th>
<th>Date of Sampling (mo.yr.)</th>
<th>MCL or MRDL Violation (Yes/No)</th>
<th>Level Detected</th>
<th>Range of Results</th>
<th>MCLG</th>
<th>MCL</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine and Chloramines (ppm)</td>
<td>01/21 - 12/21</td>
<td>No</td>
<td>3.24</td>
<td>0.6 - 4.4</td>
<td>(4)</td>
<td>(4.0)</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Haloacetic Acids (five) (HAA5) (ppb)</td>
<td>05/21 &amp; 08/21</td>
<td>No</td>
<td>18</td>
<td>16.9 - 18</td>
<td>N/A</td>
<td>60</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>TTHM (Total trihalomethanes) (ppb)</td>
<td>05/21 &amp; 08/21</td>
<td>No</td>
<td>39</td>
<td>30.4 - 39</td>
<td>N/A</td>
<td>80</td>
<td>By-product of drinking water disinfection</td>
</tr>
</tbody>
</table>

#### Lead and Copper (Tap water samples were collected from sites throughout the community)

<table>
<thead>
<tr>
<th>Contaminant and Unit of Measurement</th>
<th>Date of Sampling (mo.yr.)</th>
<th>AL Violation (Yes/No)</th>
<th>90th Percentile Result</th>
<th>No. of Sampling Sites exceeding the AL</th>
<th>MCLG</th>
<th>AL (Action Level)</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (tap water) (ppm)</td>
<td>08/20</td>
<td>No</td>
<td>0.038</td>
<td>0</td>
<td>1.3</td>
<td>1.3</td>
<td>Corrosion of household plumbing systems; erosion of natural deposits</td>
</tr>
<tr>
<td>Lead (tap water) (ppb)</td>
<td>08/20</td>
<td>No</td>
<td>2.2</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>Corrosion of household plumbing systems, erosion of natural deposits</td>
</tr>
</tbody>
</table>

### Table 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 safety water utilities are encouraged to achieve.
- **Maximum residual disinfectant level or 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 or MRDLO:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLOs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Action Level (AL):** The level detected is the highest LRAA, computed quarterly, of all samples collected. For Haloacetic acids or TTHM, the level detected is the average of monthly averages of all samples collected. For HAA5, the level detected is the highest RAA, computed quarterly, of monthly averages of all samples collected. For TTHM, the level detected is the highest LRRA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.
- **Level 1 Assessment:** A level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Locational Running Annual Average (LRAA):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.
- **Not applicable (N/A):** “ND” means not detected and indicates that the substance was not found by laboratory analysis.
- **Footnote for Regulated Contaminants Table:** Results in the Level Detected column for inorganic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.
- **Special Footnote for Stage 2 Disinfectants and Disinfection By-Product Table:** For chloramines or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For Haloacetic acids or TTHM, the level detected is the highest LRRA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.
How Is My Water Treated?

The total rated capacity of the City of Ormond Beach Water Treatment Plant is 12 million gallons per day: the average daily flow in 2021 was 6.0 MGD. Once the source water arrives at the plant, about 67% is treated by a lime softening process, with the remaining 33% treated by Low Pressure Reverse Osmosis (LPRO) technology.

The lime softening process is immediately preceded by an aeration process to remove dissolved gases contained in the source water. Lime and polymer are added to promote the removal of turbidity and hardness present in the source water. After the initial softening process, carbon dioxide is added to stabilize the water and reduce corrosion potential in piping and household plumbing. The water is then filtered to remove any remaining suspended particles.

The LPRO process includes membrane filtration and post-treatment processes. The membrane system effectively removes salts, hardness, and other minerals naturally found in water. Post-membrane treatment activities include the removal of carbon dioxide and hydrogen sulfide by employing degasification.

Water treated by lime softening and LPRO processes is blended and then treated with a phosphate-based inhibitor to further reduce corrosive properties of the finished water. The naturally occurring fluoride content is supplemented at a level recommended by the American Dental Association. A combination of chlorine and ammonia (chloramines) is applied to provide a safe and effective disinfectant residual throughout the storage and distribution system. Once or twice a year, a combination of chlorine and ammonia (chloramines) is applied to provide a safe and effective disinfectant residual throughout the storage and distribution system. Once or twice a year, liquid chlorine is added to the distribution system to enhance disinfection effectiveness.

Level 1 Assessment

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. 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 problems and to correct any problems that were found during these assessments.

During the past year, we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. In addition, we were required to take three corrective actions and we completed three of these actions.

Dental Associations Advise Against Fluoride in Baby Formula

Although the American Dental Association and the Florida Dental Association both endorse fluoridated water as an effective way to prevent tooth decay, they have issued an advisory recommending that non-fluoridated bottled water be used in powdered or liquid-concentrate baby formula for infants.

The advisories note that too much fluoride can cause “fluorosis,” resulting in a discoloration or streaks on teeth. “While the appropriate amount of fluoride can help prevent tooth decay, too much fluoride creates a risk for enamel fluorosis, which is an esthetic concern,” says the Florida Dental Association report. “Because of their smaller size and weight, infants’ bodies often require less than older children and adults.”

The advisories recommend mothers’ breast milk for infants or ready-to-feed baby formula. If using powdered or liquid concentrate baby formula, then non-fluoridated bottled water rather than fluoridated tap water is recommended.

The dental benefits or risks of fluoridated drinking water have been an ongoing nationwide debate for over 50 years. Like most of the cities in the area, the City of Ormond Beach provides fluoridated water.

Important Information on Lead 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 Ormond Beach 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 or at www.epa.gov/safewater/lead.

Low Flow Toilet Rebate Program

The City of Ormond Beach has a rebate program to supplement the cost associated with the replacement of older less water efficient toilets. In order to qualify for the rebate, residents of the City with a home built before January 1, 1994 are eligible for the $50 rebate for a maximum of two per residence or unit.

By replacing an older toilet with a newer model a family can reduce indoor water usage by 20%-60%. That’s nearly 13,000 gallons of water savings per year, which in turn could save more than $110 per year on water bills.

The U.S. Environmental Protection Agency allows toilets to be certified by third-party testing to meet criteria in efficiency and performance to earn its WaterSense label. Nearly 2,500 water-efficient toilets currently meet these standards, providing plenty of style and price options.

Visit the City of Ormond Beach’s website at www.ormondbeach.org/documentcenter/view/452 to review the rebate criteria and the procedure for obtaining the rebate for a maximum of two per residence or unit.

Questions?

For more information about this report, or for any questions relating to your drinking water, please contact Shawn Horsley, Environmental Regulatory Compliance Coordinator, at (386) 676-3336 or shawn.horsley@ormondbeach.org or Brad Bowman, Chief Water Plant Operator at (386) 676-3568 or brad.bowman@ormondbeach.org.