Volusia County Utilities is pleased to present to you this year’s Annual Water Quality Report.

This report is designed to inform you about the quality of water and services we deliver to you every day. We want you to understand the efforts we make to provide you with a dependable and safe supply of drinking water. We are committed to ensuring the quality of your water and protecting our water resources.

Where Does My Water Come From and How is it Treated?

Seven wells provide VC/Southwest Interconnect with groundwater pumped from the Floridan Aquifer. This water system consists of four Water Treatment Plants (Glen Abbey, Breezewood, Four Towns, and Highland Country). At the Glen Abbey plant, water is aerated for hydrogen sulfide removal, The Breezewood plant utilizes hydrogen peroxide and caustic soda to for odor control. Each of the four interconnected facilities adds orthophosphate as a corrosion inhibitor and applies a combination of chlorine and ammonia (chloramines) to ensure the distribution system is safe from pathogenic bacteria.

Understanding Source Water Quality:

The sources of drinking water for 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:

- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Microbial contaminants**, such as viruses, bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operation, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which may 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, urban storm water 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 storm water runoff, and septic systems.

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.
About Water Quality:

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 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 (800-426-4791) or by visiting the following website: epa.gov/dwstandardsregulations

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 of infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available for the Safe Drinking Water Hotline (800-426-4791)

Lead in Drinking Water:

Volusia County Utilities routinely monitors water quality parameters at each of our groundwater supply wells and again at the point of entry into our distribution system. This allows us to ensure that proper process controls are implemented in order to ensure water characteristics such as pH, alkalinity, and calcium levels are optimal when it leaves our water treatment plant.

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. Volusia County Utilities 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 reduce exposure is available from the Safe Drinking Water Hotline (800-426-4791) or by visiting http://www.epa.gov/safewater/lead

Our water treatment plants use proven technology, and state-certified operators to ensure a high quality product.
Key Terms in This Report:

Volusia County Water Resources and Utilities routinely monitors for more than 80 regulated contaminants in your drinking water according to federal and state laws, rules and regulations. As you can see by the table below, laboratory analysis of our water yielded no violations of drinking water standards. All test results were well below the allowable levels. We are proud that your drinking water meets or exceeds all federal and state requirements.

The primary contaminants include inorganic compounds (mostly metals that are naturally found in the environment), volatile compounds, pesticides, PCBs, and radionuclides. Secondary contaminants include compounds associated with the aesthetic quality of water. Except were indicated otherwise, this report is based on the most recent results of our monitoring for the period of January 1, 2019 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.

In the water quality results tables, you may find unfamiliar terms and abbreviations. To help you better understand these terms, we have provided the following definitions:

- **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.

- **“ND”** means not detected and indicates that the substance was not found by laboratory analysis.

- **“N/A”** means not applicable.

- **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 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 disinfectant to control microbial contaminants.

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

- **Parts per million (ppm) or Milligrams per liter (mg/L);** One part by weight of analyte to 1 million parts by weight of the water sample.

- **Parts per billion (ppb) or Micrograms per liter (μg/l);** One part by weight of analyte to 1 billion parts by weight of the water sample.

- **Picocuries per liter (pCi/L);** Picocuries per liter is a measure of the radioactivity in water.

- **90th Percentile;** Value for which ninety percent of the sites sampled were either equal to or below.
### Disinfectants and Disinfection By-Products

<table>
<thead>
<tr>
<th>Contaminant and Unit of Measure</th>
<th>Dates of Sampling (mo/yr)</th>
<th>MCL Violation Y/N</th>
<th>Level Detected</th>
<th>Range of Results</th>
<th>MRDLG</th>
<th>MCL or MRDL</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloramines (ppm)</td>
<td>01/19 - 12/19</td>
<td>No</td>
<td>2.6</td>
<td>0.6 - 3.9</td>
<td>4</td>
<td>MRDL = 4</td>
<td>Water additive used to control microbes.</td>
</tr>
<tr>
<td>Haloacetic Acids (HAAS) (ppb)</td>
<td>01/19 04/19 07/19 10/19</td>
<td>No</td>
<td>39.0</td>
<td>29.5 - 49.8</td>
<td>N/A</td>
<td>MCL = 60</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Total Trihalomethanes (TTHM) (ppb)</td>
<td>01/19 04/19 07/19 10/19</td>
<td>No</td>
<td>64.5</td>
<td>55.0 - 73.2</td>
<td>N/A</td>
<td>MCL = 80</td>
<td>By-product of drinking water disinfection.</td>
</tr>
</tbody>
</table>

### Inorganic Contaminants

<table>
<thead>
<tr>
<th>Contaminant and Unit of Measure</th>
<th>Dates of Sampling (mo/yr)</th>
<th>MCL Violation Y/N</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>Arsenic (ppb)</td>
<td>06/17 11/17</td>
<td>No</td>
<td>0.93</td>
<td>0.67 - 0.93</td>
<td>0</td>
<td>10</td>
<td>Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>05/17 06/17 11/17</td>
<td>No</td>
<td>0.022</td>
<td>0.013 - 0.022</td>
<td>2</td>
<td>2</td>
<td>Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>05/17 06/17 11/17</td>
<td>No</td>
<td>0.091</td>
<td>0.073 - 0.091</td>
<td>4</td>
<td>4.0</td>
<td>Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth at the optimum level of 0.7 ppm</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>05/17 06/17 11/17</td>
<td>No</td>
<td>20.1</td>
<td>13.4 - 20.1</td>
<td>N/A</td>
<td>160</td>
<td>Salt water intrusion, leaching from soil.</td>
</tr>
</tbody>
</table>

### Lead & Copper (Tap Water)

<table>
<thead>
<tr>
<th>Contaminant and Unit of Measure</th>
<th>Dates of Sampling (mo/yr)</th>
<th>AL Exceeded Y/N</th>
<th>90th Percentile</th>
<th>No. of Sampling Sites Exceeding AL (Action Level)</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>06/17</td>
<td>No</td>
<td>0.41</td>
<td>0</td>
<td>1.3</td>
<td>1.3</td>
<td>Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.</td>
</tr>
<tr>
<td>Lead (tap water) (ppb)</td>
<td>06/17</td>
<td>No</td>
<td>2.5</td>
<td>1</td>
<td>0</td>
<td>15</td>
<td>Corrosion of household plumbing systems, erosion of natural deposits.</td>
</tr>
<tr>
<td>Contaminant and Unit of Measure</td>
<td>Dates of Sampling (mo/yr)</td>
<td>Level Detected</td>
<td>Range of Results</td>
<td>Likely Source of Contamination</td>
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</tr>
<tr>
<td>Manganese (ppb)</td>
<td>01/19</td>
<td>13.0</td>
<td>4.2 - 13.0</td>
<td>Naturally occurring element.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAA5 (Sum of Haloacetic Acids) (ppb)</td>
<td>01/19</td>
<td>33.1</td>
<td>32.6 - 33.1</td>
<td>Disinfection by-product in the distribution system.</td>
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</tr>
<tr>
<td>HHA6Br (Sum of 6 Brominated Haloacetic Acids) (ppb)</td>
<td>01/19</td>
<td>21.0</td>
<td>20.1 - 21.0</td>
<td>Disinfection by-product in the distribution system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAA9 (Sum of Haloacetic Acids) (ppb)</td>
<td>01/19</td>
<td>52.0</td>
<td>50.7 - 52.0</td>
<td>Disinfection by-product in the distribution system.</td>
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</tbody>
</table>

Volusia County Utilities has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UCs. However, we are required to publish the detected analytical results of our UC monitoring in our annual water quality report. For the complete list of results, including the non-detected contaminants, contact Brian Volkman at 386-822-6465 or bvolkman@volusia.org. If you would like more information on the EPA’s Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

**Source Water Assessments:**

The FDEP’s Source Water Assessment & Protection Program is meant to ensure that your drinking water is safe, not just at the tap, but at its source. Initiated as part of the federal Safe Drinking Water Act, the program identifies potential threats to drinking water supplies with the goal to protect our vital resources.

The most recent Source Water Assessment performed for VC/Southwest Interconnect by the Department of Environmental Protection was in 2019. There were 6 unique potential sources of contamination identified for this system, all of which were identified as being of a low level of concern. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at: https://fldep.dep.state.fl.us/swapp/

**Questions or Concerns?**

If you have any questions or concerns about the information provided in this report, please feel free to contact Volusia County Utilities Operations at (386) 822-6465. You may also choose to attend a Volusia County Council meeting. These meetings are held twice a month on Tuesday’s with public participation at 9:30 a.m. at the Thomas C. Kelly Administration Center, 123 W. Indiana Ave, DeLand. Please visit Volusia.org for specific meeting dates.
Fats, Oils & Grease (FOG):

Fats, oils, and grease (FOG) are one of the leading causes of sewer overflows. There are simple steps which residents can take to prevent FOG from adversely affecting their homes and communities. The easiest way to solve grease problems and prevent blockages is to keep FOG out of the sewer system. When FOG is dumped down the drain, it forms large, thick grease balls that clog pipes. Although often unintentional, the introduction of FOG into the sewer system poses a significant risk to household plumbing and sewer systems. Clogged pipes can result in sewer backups and spills, create environmental problems, or even flood home and businesses.

A pipe clogged with thick fats, oil and grease, also known as FOG.

How You Can Avoid Thousands of Dollars in Unnecessary Repairs:

- NEVER pour grease down sink drains or into toilets or garbage disposals.
- Pour grease into a covered disposable container and put it into the trash.
- Soak up remaining fats, oils and grease with paper towels and dispose with your trash.
- Before washing dishes, scrape meats and food with fat and grease into the trash.
- Put baskets or strainers in sink drains to catch food scraps and other solids, and empty the drain basket or strainer into the trash.
- Only use garbage disposals for fruits, vegetables, and organic waste.

Money Saving Tips for Businesses Managing FOG:

- Strain or filter oil in deep fryers to extend the life of cooking oil. Control the temperature of deep fryers to prevent oil from scorching and extend its life. Less oil in the grease interceptor means money saved in pumping and in new oil purchased.
- Recycle cooking oils and leftover grease into a storage container such as a barrel or bucket. Remember that grease is valuable; grease and oil can be recycled into other useful products. See your Yellow Pages for "grease traps" or "greases" to find grease collection companies or grease trap service providers.
- Instruct staff to be conservative about the use of FOG in food preparation.
- Don’t use your garbage disposal to grind up FOG and flush it down the drain.
- Use dry cleanup methods to reduce water consumption and save money. Remove FOG and food waste from pans by scraping or wiping before using water. Use rubber scrapers to remove FOG from cookware.
- Use absorbent paper to soak up FOG under fryer baskets.
- Use paper towels to wipe down work areas. Cloth towels will accumulate grease that will eventually end up in your drains when washing.
- Minimize the use of dish soap in dishwashing operations. Dish soap emulsifies FOG and enables it to pass through a grease interceptor. It will later coagulate in sewer lines.
- Maintain your grease trap. Many restaurants have a grease trap installed in the kitchen. In order to keep your grease trap working properly, you’ll need to have it cleaned periodically, according to the manufacturer’s specifications.