

# St. Johns County Utilities Northeast Utilities 2019 Water Quality Report

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water is purchased from JEA's Major Grid, whose source water is groundwater from 104 wells that draw from the Floridan Aquifer.

Due to the excellent quality of the source water, the only treatment processes are aeration for odor control and chloramination to ensure disinfection.

In 2019, the Department of Environmental Protection performed a Source Water Assessment for JEA's Major Grid. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 118 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 [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp) or they can be obtained from JEA's Water Quality Hotline at (904) 665-4560.

If you have any questions about this report or concerning your water utility, please contact **Dan Nowaczyk at (904) 669-7480**. We encourage our valued customers to be informed about their water utility. If you want to learn more or would like to attend any of our regularly scheduled meetings, please contact us for dates and times.

**Northeast Utilities** routinely monitors for 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.

In the table below, you may find unfamiliar terms and abbreviations. To help you better understand these terms we've provided the following definitions:

**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.

**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.

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

**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.

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.

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

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 ( $\mu\text{g/l}$ ): one part by weight of analyte to 1 billion parts by weight of the water sample.

Picocurie per liter (pCi/L): a measure of the radioactivity in water.

| <b>TEST RESULTS TABLE</b>                   |                                    |                          |                               |                         |             |            |  |
|---|------------------------------------|--------------------------|-------------------------------|-------------------------|-------------|------------|--|
| <b>Contaminant and Unit of Measurement</b>  | <b>Dates of sampling (mo/yr)</b>   | <b>MCL Violation Y/N</b> | <b>Level Detected</b>         | <b>Range of Results</b> | <b>MCLG</b> | <b>MCL</b> | <b>Likely Source of Contamination</b>  |
| <b>Radioactive Contaminants</b>             |                                    |                          |                               |                         |             |            |  |
| Alpha emitters (pCi/L)                      | 2, 9 & 11/2017                     | N                        | 7.07                          | ND – 7.07               | 0           | 15         | Erosion of natural deposits  |
| Radium 226 + 228 or combined radium (pCi/L) | 2, 9 & 11/2017                     | N                        | 1.296                         | ND – 1.296              | 0           | 5          | Erosion of natural deposits  |
| <b>Inorganic Contaminants</b>               |                                    |                          |                               |                         |             |            |  |
| <b>Contaminant and Unit of Measurement</b>  | <b>Dates of sampling (mo./yr.)</b> | <b>MCL Violation Y/N</b> | <b>Highest Level Detected</b> | <b>Range of Results</b> | <b>MCLG</b> | <b>MCL</b> | <b>Likely Source of Contamination</b>  |
| Antimony (ppb)                              | 2/2017                             | N                        | 0.495                         | ND – 0.495              | 6           | 6          | Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.   |
| Barium (ppm)                                | 2/2017                             | N                        | 0.0341                        | .0142 – .0341           | 2           | 2          | Discharge of drilling waste; discharge from metal refineries; erosion of natural deposits  |
| Chromium (ppb)                              | 2/2017                             | N                        | 0.706                         | ND – 0.706              | 100         | 100        | Discharge from steel and pulp mills; erosion of natural deposits   |
| Fluoride (ppm)                              | 2/2017                             | N                        | 0.769                         | 0.385 – 0.769           | 4           | 4.0        | Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm |
| Lead (point of entry) (ppb)                 | 2/2017                             | N                        | 1.95                          | ND – 1.95               | 0           | 15         | Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder  |
| Mercury (ppb)                               | 2/2017                             | N                        | .006                          | ND - .006               | 2           | 2          | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland  |
| Nickel (ppb)                                | 2/2017                             | N                        | 2.11                          | ND – 2.11               | N/A         | 100        | Pollution from mining and refining operations. Natural occurrence in soil  |

|                             |        |   |       |            |     |     |  |
|-----------------------------|--------|---|-------|------------|-----|-----|--|
| Nitrite (as Nitrogen) (ppm) | 3/2019 | N | .0172 | ND - ,0172 | 1   | 1   | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits      |
| Nitrate (as Nitrogen) (ppm) | 3/2019 | N | 0.237 | ND - 0.237 | 10  | 10  | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits      |
| Selenium (ppb)              | 2/2017 | N | 7.83  | ND – 7.83  | 50  | 50  | Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines |
| Sodium (ppm)                | 2/2017 | N | 115   | 7.5 – 115  | N/A | 160 | Salt water intrusion, leaching from soil   |
| Thallium (ppb)              | 2/2017 | N | 0.466 | ND – 0.466 | 0.5 | 2   | Leaching from ore-processing sites; discharge from electronics, glass, and drug factories        |

### Disinfectants and Disinfection By-Products

For the parameters listed below, the level detected is the annual average of the quarterly averages. Range of Results is the range of results (lowest to highest) at the individual sampling sites for Stage 1 and Stage 2 monitoring.

| Contaminant and Unit of Measurement  | Dates of sampling (mo./yr.) | MCL Violation Y/N | Level Detected | Range of Results | MCLG or MRDLG | MCL or MRDL | Likely Source of Contamination            |
|--------------------------------------|-----------------------------|-------------------|----------------|------------------|---------------|-------------|---|
| Chlorine (ppm)                       | 1-12/2019                   | N                 | 1.97           | 1.56 - 2.34      | MRDLG =4      | MRDL = 4.0  | Water additive used to control microbes   |
| Haloacetic Acids (five) (HAA5) (ppb) | 9/2019                      | N                 | 5.66           | N/A              | NA            | MCL = 60    | By-product of drinking water disinfection |
| TTHM [Total trihalomethanes] (ppb)   | 9/2019                      | N                 | 50.37          | N/A              | NA            | MCL = 80    | By-product of drinking water disinfection |

### Lead and Copper (Tap Water)

| Contaminant and Unit of Measurement | Dates of sampling (mo./yr.) | AL Violation Y/N | 90th Percentile Result | No. of sampling sites exceeding the AL | MCLG | AL (Action Level) | Likely Source of Contamination   |
|-------------------------------------|-----------------------------|------------------|------------------------|--|------|-------------------|--|
| Copper (tap water) (ppm)            | 8/2018                      | N                | 0.0061                 | 0 of 41                                | 1.3  | 1.3               | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (tap water) (ppb)              | 8/2018                      | N                | 0.3                    | 0 of 41                                | 0    | 15                | Corrosion of household plumbing systems; erosion of natural deposits                                   |

### Secondary Contaminants

| Contaminant and Unit of Measurement | Dates of sampling (mo./yr.) | MCL Violation Y/N | Highest Result | Range of Results | MCLG | MCL | Likely Source of Contamination        |
|-------------------------------------|-----------------------------|-------------------|----------------|------------------|------|-----|---------------------------------------|
| Chloride (ppm)                      | 2-4/2017                    | **Y               | 329            | 8.99 - 329       |      | 250 | Natural occurrence from soil leaching |
| Iron (ppm)                          | 2-5/2017                    | **Y               | 0.439          | .0034 – 0.439    | N/A  | 0.3 | Natural occurrence from soil leaching |
| Odor (threshold odor number)        | 2-6/2017                    | **Y               | 64             | 1 - 64           |      | 3   | Naturally occurring organics          |
| Sulfate (ppm)                       | 2–6/2017                    | **Y               | 258            | 22 – 258         | N/A  | 250 | Natural occurrence from soil leaching |
| Total Dissolved Solids (ppm)        | 2–6/2017                    | **Y               | 846            | 141 - 846        | N/A  | 500 | Natural occurrence from soil leaching |

\*\* High levels of these contaminants do not show adverse health effects. Note: St. Johns Forest WTP has a FDEP waiver for Sulfate levels not to exceed 500 mg/L.

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. St. Johns 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 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 <http://www.epa.gov/safewater/lead>.

**JEA MAJOR GRID VARIANCE:** JEA Major Grid, which is the source of our water, includes the St. Johns Forrest WTP, which has two pairs of wells (Floridan and shallow) that are pumped simultaneously to blend the water to reduce sulfates that are naturally occurring in the Floridan aquifer in northern St. Johns County. The SJRWMD has reduced the authorized use of the shallow wells due to the impacts on surrounding wetlands. Therefore, while the current MCL for sulfate is 250 mg/L and is based on aesthetic effects (i.e. taste and odor), a variance is in effect until such time that a sulfate level of 500 mg/L is either exceeded or FDEP adopts a primary MCL for sulfates that is more restrictive than 500 mg/L. However, EPA and available health data indicates that chronic exposure to low levels of sulfates is not harmful to health. Additionally, according to JEA, water from the St. Johns Forest plant is not typically pumped to our system.

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:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) 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.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) 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.
- (E) 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/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).**

We at St. Johns County Utility work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.