Letter from Managing Director and CEO

Dear Valued JEA Customer,

JEA takes stewardship of our community’s water supply very seriously and follows all regulatory requirements meticulously. With this in mind, we are pleased to provide you with our 2018 Water Quality Report.

In this publication you’ll find detailed information about JEA's water treatment systems, results from our water quality testing and answers to common questions you may have about our water supply.

The Floridan aquifer, our pristine groundwater source, provides JEA customers with exceptional quality water. To sustain and protect this resource, JEA makes significant investments to responsibly manage it. We constantly monitor and optimize system operations to ensure the most reliable and cost-effective method of delivering water to you.

In this report, you will find a comprehensive summary of JEA's drinking water quality results from the most recent sampling period. This represents an average of 45,000 tests performed each year by our team of laboratory scientists and technicians. These professionals work alongside our water operations staff each day to assure the safety of our drinking water.

We know the water we deliver to your home or business contributes significantly to your quality of life and that of our entire community. That’s why we work hard to manage and maintain these water resources, to meet today’s needs and for future generations.

As our community continues to grow, it’s up to every one of us to help conserve and protect this limited resource. Please join us at JEA in our pursuit of protecting and sustaining this critical natural resource. Visit jea.com/onewater to learn how you can help.

Sincerely,

Aaron Zahn
Managing Director and Chief Executive Officer

One Water, One Responsibility

Here in Jacksonville, we are fortunate to have access to some of the most pristine water in the world—just by turning on the tap. We attribute this fact to the Floridan Aquifer, our natural water source, which is rated by the U.S. Geological Survey as one of the highest-quality water sources in the country—and bringing that water to hundreds of thousands of homes each day is quite a responsibility.

JEA draws water from more than 139 wells located throughout Duval, Nassau and St. Johns counties. From those wells, it is pumped into large reservoirs at one of 38 water treatment plants, where it is aerated to control naturally occurring odors and chlorinated to make it safe for drinking. We also utilize ozone at a few plants for sulfide removal and to improve taste and odor. After treatment, pumping stations send it through 4,200 miles of pipes to homes across our area.

While we have a sufficient water supply now, we all need to work together to ensure our water supply is sustainable for the future—when water conservation won’t be as simple as shortening showers or following lawn-watering guidelines.

JEA takes seriously its responsibility for delivering clean, safe water; infrastructure maintenance and development; and planning for the future needs of our community.

FDEP Source Water Assessments

In 2018, the Florida Department of Environmental Protection performed Source Water assessments to identify potential sources of contamination in the vicinity of JEA wells. Potential contamination sources include landfills, fuel storage tanks, dry cleaning facilities and wastewater disposal areas. Visit fdep.dep.state.fl.us/swapp/ to view assessment results online.

<table>
<thead>
<tr>
<th>System</th>
<th># of Potential Sources</th>
<th>Susceptibility Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Grid</td>
<td>113</td>
<td>Low-Moderate</td>
</tr>
<tr>
<td>Mayport</td>
<td>2</td>
<td>Low</td>
</tr>
<tr>
<td>Lofton Oaks Grid</td>
<td>7</td>
<td>Low</td>
</tr>
<tr>
<td>Ponte Vedra Grid</td>
<td>2</td>
<td>Low</td>
</tr>
<tr>
<td>Ponce de Leon Grid</td>
<td>5</td>
<td>Low-Moderate</td>
</tr>
</tbody>
</table>
We work hard to ensure that the water you receive is of the highest quality. In addition to all the regular water testing we perform (the results of which are included in this report), JEA has launched some major initiatives designed to upgrade our water infrastructure and protect the quality of our public drinking water supply, including:

**Northwest Regional Water Treatment Plant**
Located near Jacksonville International Airport, this new multimillion-dollar water treatment plant was brought into service during 2018 with the capacity to produce 6 million gallons of drinking water per day for the growing Northwest Jacksonville area.

**Backflow Preventer Checkup Program**
Homeowners with irrigation systems are required by law to have a device known as a backflow preventer, which prevents irrigation water from contaminating the public drinking water supply. JEA’s expanded Backflow Preventer Checkup Program helps customers with residential irrigation meters comply with state environmental regulations by automatically scheduling and sending backflow service providers to test these devices, ensuring that our drinking water remains safe.

**Preserving Our Water Supply**
In the past decade, the First Coast has seen tremendous population growth. While we have a sufficient water supply now, we all need to work together to ensure our water is sustainable for the future. Below are just a few of the innovative ways that JEA is working to preserve our water supply.

**JEA’s award-winning reclaimed water program** is a vital tool in our community’s efforts to protect the St. Johns River and sustain the Floridan aquifer. With more than half of Florida’s public water supply being used outdoors—primarily for irrigation—communities across the state began looking for ways to meet this need for irrigation water without depleting the aquifer.

Reclaimed water is one solution. By filtering, disinfecting and continuously monitoring the quality of our reclaimed water, JEA is able to meet the irrigation needs of our customers while protecting the environment. In 2018, JEA produced on average 17 million gallons per day of reclaimed water—that’s water that we don’t have to pull from the Floridan aquifer. At the same time, the program protects the St. Johns River by reducing the amount of treated wastewater discharged into the river.

**From San Diego to Singapore, resource-conscious communities around the world are embracing new technologies that make it possible to fully reuse water. Purified water—or fully treating reclaimed water to drinking water standards—is one way to accomplish this. While purified water is already in use in other communities, JEA has recently completed Phase 1 of a purified water initiative to potentially develop purified water in the future. Phase 1 was a technology evaluation project that successfully compared two different technologies at two water reclamation facilities. Next, Phase 2 is going to scale the selected technology in a demonstration pilot project. We anticipate starting Phase 2 later this year. If successful, Phase 3 would be a full scale project to use the purified water as aquifer recharge. This would provide a more sustainable water supply for the region.**

**West Nassau Water Treatment Plant Expansion**
With the addition of a new well, ground storage tank, and service pumps, the capacity of this plant was increased from 1.41 million gallons per day (MGD) to 3.60 MGD to better serve the rapidly growing area of Nassau County.
**Important Information**

The Water Quality Report is provided to all customers of community water systems on an annual basis as required by the Environmental Protection Agency (EPA) under the 1996 Safe Drinking Water Act Amendments.

JEA 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, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. Out of more than 100 contaminants for which JEA routinely tests, only those that have been detected appear in the tables.

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.

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.
### Water Quality Monitoring Results

#### Radioactive Contaminants
- **Alpha emitters (pCi/L)**
  - Major Grid: 7.07 (ND - 7.07)
  - Sample Date: 02/17

- **Radium 226+228 or combined radium (pCi/L)**
  - Major Grid: 1.296 (ND - 1.296)
  - Sample Date: 02/17

#### Inorganic Contaminants
- **Antimony (ppb)**
  - Major Grid: 0.405 (ND - 0.405)
  - Sample Date: 02/17

- **Barium (ppm)**
  - Major Grid: 0.0341 (ND - 0.0341)
  - Sample Date: 03/18

- **Chromium (ppb)**
  - Major Grid: 0.706 (ND - 0.706)
  - Sample Date: 02/17

- **Iron (ppm)**
  - Major Grid: 1.95 (ND - 1.95)
  - Sample Date: 02/17

- **Mercury (ppb)**
  - Major Grid: 0.0063 (ND - 0.0063)
  - Sample Date: 02/17

- **Nickel (ppb)**
  - Major Grid: 2.11 (ND - 2.11)
  - Sample Date: 02/17

- **Nitrates (as Nitrogen) (ppm)**
  - Major Grid: 0.229 (ND - 0.229)
  - Sample Date: 03/18

- **Selenium (ppb)**
  - Major Grid: 2.73 (ND - 2.73)
  - Sample Date: 02/17

- **Sodium (ppm)**
  - Major Grid: 115.15 (ND - 115.15)
  - Sample Date: 03/18

- **Thallium (ppb)**
  - Major Grid: 0.466 (ND - 0.466)
  - Sample Date: 02/17

#### Volatile Organic Contaminants
- **Dichloromethane (ppb)**
  - Major Grid: 0.41 (ND - 0.41)
  - Sample Date: 02/18

- **Diethyl ether/pentane (ppb)**
  - Major Grid: 1.0 (ND - 1.0)
  - Sample Date: 02/18

#### Synthetic Organic Contaminants
- **Dioxin (ppb)**
  - Major Grid: 4.72 (ND - 4.72)
  - Sample Date: 03/18

- **Duloxetine (ppb)**
  - Major Grid: 0.63 (ND - 0.63)
  - Sample Date: 01/18

- **Bromate (ppb)**
  - Major Grid: 10.36 (ND - 10.36)
  - Sample Date: 01/18

- **Chloramine (ppb)**
  - Major Grid: 2.0 (ND - 2.0)
  - Sample Date: 01/18

**Stage 1 Disinfectants and Disinfection Byproducts**
- **Bromate (ppb)**
  - Major Grid: 10.36 (ND - 10.36)
  - Sample Date: 01/18

- **Chloramine (ppb)**
  - Major Grid: 2.0 (ND - 2.0)
  - Sample Date: 01/18

**Stage 2 Disinfectants and Disinfection Byproducts**
- **Haloacetic Acids (free) (HAQO)**
  - Major Grid: 28.54 (ND - 28.54)
  - Sample Date: 03/18

- **Total Trihalomethanes (ppb)**
  - Major Grid: 7.17 (ND - 7.17)
  - Sample Date: 06/17

**Likely Sources of Contamination**
- wood preservatives
  - Corrosion of household plumbing system; erosion of natural deposits; leaching from soil
- Leaching of ore-processing sites; discharge from electronics, glass, and drug factories
- Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
- Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
- Runoff from herbicide used on rights of way
- Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
- Runoff from herbicide used on rights of way
- Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

### Lead and Copper (Tap Water)

#### Lead and Copper (Tap Water)
- **Lead (ppb)**
  - Major Grid: 0.150 (ND - 0.150)
  - Sample Date: 06/17

#### Secondary Contaminants
- **Chloride (ppm)**
  - Major Grid: 329 (ND - 329)
  - Sample Date: 02/16

- **Iron (ppm)**
  - Major Grid: 0.410 (ND - 0.410)
  - Sample Date: 02/16

- **Sulfate (ppm)**
  - Major Grid: 258 (ND - 258)
  - Sample Date: 02/16
**Additional Information**

**Lead:** 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. JEA 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 [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

**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 from their health care providers about drinking water. **

**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).**

**TTHM [Total Trihalomethanes]:** The following samples during 2018 exceeded the TTHM MCL of 80 ppb. However, the system did not incur an MCL violation because all annual average results at all sites were below the MCL. Some people who drink water containing trihalomethanes 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.

**Major Grid:**
- 6505 Greenfern Lane: 85.09 and 83.48 ppb (Apr)
- 172 Wandering Woods Way: 89.10 ppb (Oct)
- 2624 Seneca Drive: 93.83 ppb (Jul)

**Ponce de Leon Grid:**
- 2371 S. Ponte Vedra Blvd.: 107.98 ppb (Oct)
- 125 Tides Edge Pl.: 99.60 ppb (Apr), 80.49 ppb (Jul), 83.54 ppb (Oct)
Water Hardness Levels

Water is described as “hard” when it contains high levels of dissolved minerals—primarily calcium and magnesium. While these naturally occurring compounds can leave spots on dishes and windows (easily removed with white vinegar), they do not present a health risk. In fact, both calcium and magnesium are commonly taken as health supplements.

The table to the right indicates the total hardness found at each of JEA’s 38 water treatment plants.

<table>
<thead>
<tr>
<th>WATER TREATMENT PLANT</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PARTS PER MILLION</td>
</tr>
<tr>
<td>Major Grid (Duval &amp; St. Johns counties)</td>
<td></td>
</tr>
<tr>
<td>1 Arlington</td>
<td>345</td>
</tr>
<tr>
<td>2 Beacon Hills</td>
<td>359</td>
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<tr>
<td>3 Brierwood</td>
<td>340</td>
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<tr>
<td>4 Cecil Commerce Center</td>
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<tr>
<td>5 Community Hall</td>
<td>201</td>
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<tr>
<td>6 Deerwood III</td>
<td>385</td>
</tr>
<tr>
<td>7 Fairfax</td>
<td>241</td>
</tr>
<tr>
<td>8 Greenland</td>
<td>312</td>
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<tr>
<td>9 Hendricks</td>
<td>269</td>
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<tr>
<td>10 Highlands</td>
<td>243</td>
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<tr>
<td>11 Julington Creek</td>
<td>378</td>
</tr>
<tr>
<td>12 Lakeshore</td>
<td>188</td>
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<tr>
<td>13 Lovegrove</td>
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<tr>
<td>14 Main Street</td>
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<tr>
<td>15 Marietta</td>
<td>252</td>
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<tr>
<td>16 McDuff</td>
<td>256</td>
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<tr>
<td>17 Monument</td>
<td>478</td>
</tr>
<tr>
<td>18 Northwest</td>
<td>270</td>
</tr>
<tr>
<td>19 Norwood</td>
<td>227</td>
</tr>
<tr>
<td>20 Oakland</td>
<td>315</td>
</tr>
<tr>
<td>21 Ridenour</td>
<td>283</td>
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<tr>
<td>22 Royal Lakes</td>
<td>445</td>
</tr>
<tr>
<td>23 Southeast</td>
<td>303</td>
</tr>
<tr>
<td>24 Southwest</td>
<td>136</td>
</tr>
<tr>
<td>25 St. Johns Forest</td>
<td>479</td>
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<tr>
<td>26 St. Johns North</td>
<td>235</td>
</tr>
<tr>
<td>27 Westlake</td>
<td>311</td>
</tr>
<tr>
<td>28 Woodmere</td>
<td>239</td>
</tr>
<tr>
<td>Independent Plant</td>
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<tr>
<td>29 Mayport</td>
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<td>Lofton Oaks Grid</td>
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<tr>
<td>Nassau County</td>
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<td>30 Lofton Oaks Regional</td>
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<td>32 Otter Run</td>
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<tr>
<td>34 A1A North</td>
<td>367</td>
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<td>37 Corona Road</td>
<td>279</td>
</tr>
<tr>
<td>38 Ponte Vedra North</td>
<td>357</td>
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</tbody>
</table>

The number on the map at left corresponds to the location of the water plant listed in the table above.

Contact Us

For more information on JEA’s water quality tests, please contact us.

By phone: (904) 665-6000
By email: WaterQuality@jea.com
By mail: JEA Water Quality
1002 N. Main St.
Jacksonville, FL 32206

In person: JEA’s board meetings are held on the third Tuesday of every month at JEA’s downtown offices, located at 21 W. Church St., Jacksonville. The public is invited to attend.

Call (904) 665-6000 to request a copy of this report or download an electronic version at jea.com/WQR2018. Printed copies are available at every Jacksonville Public Library branch.