

2023



Building Community

WATER QUALITY REPORT



Welcome

Dear Valued JEA Water Customer,

We're pleased to present JEA's 2023 Annual Water Quality Report.

As part of our ongoing commitment to sustainability and transparency, JEA is keeping you informed about water services we deliver to you every day. We are committed to providing you with a safe, reliable and sustainable supply of drinking water. That's why we constantly confirm your water quality by testing more than 45,000 water samples every year.

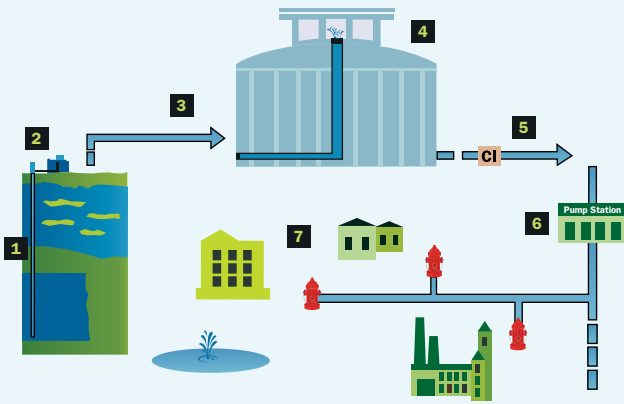
All of the water we deliver to you is drawn from the pristine Floridan aquifer. This report provides information about JEA's water treatment systems, results from our water quality testing and answers to some frequently asked questions about your water supply.

We encourage you to explore the report and learn more about water quality in our community and JEA's role as a steward of our natural resources and the environment.

On the cover: A technician at JEA's Springfield Laboratory tests drinking water samples as part of its reliability process.

Water System Process

The JEA drinking water system consists of wells, water treatment plants, the distribution grid of pipelines, and finally the customers' meters. We have over 130 wells that withdraw water from the Floridan aquifer, about 1,000 feet below land surface. The fresh, clean water is pumped from the well fields to one of 39 water treatment plants, where it then flows through an aerator to remove the sulfur (rotten egg) odor. The water leaves the reservoirs and is disinfected with chlorine per health regulations before it enters over 4,900 miles of water lines for distribution to our customers. Ozone is also utilized at two plants for sulfide removal and to improve taste and odors.

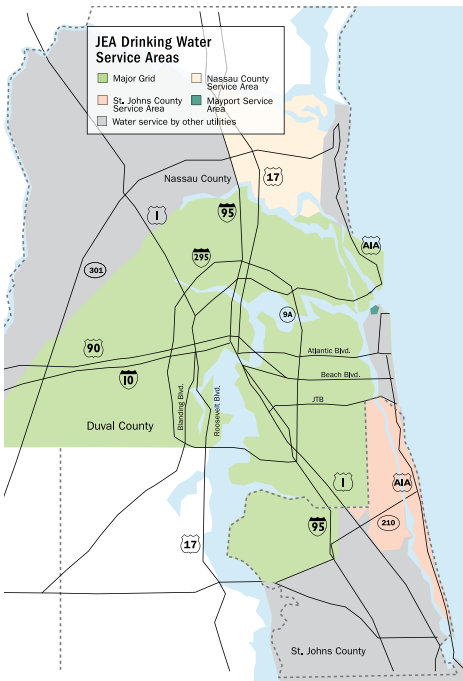


1. The Florida Aquifer is the source of water in Northeast Florida. JEA utilizes this source to provide potable (drinking) water to our customers. The aquifer is a gigantic underground river that courses through limestone formations many hundreds of feet underground. **2. Deep Well Turbine Pumps** are used to draw the water from the aquifer and deliver it through **3. Well Headers** to the **4. Water Treatment Plant**. At the plant, the water is aerated and stored until there is demand for the water. As needed, the water is chlorinated and pumped into the system by the plant's service pumps. **5. Transmission Mains** carry the potable water throughout the many miles of service area and ultimately deliver the water through **6. Distribution Mains**, service connections, and water meters to our **customers**.

FDEP Source Water Assessments

In 2023, 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 prodapps.dep.state.fl.us/swapp/ to view assessment results online.

System	# of Potential Sources	Susceptibility Level
Major Grid	121	Low-Moderate
Mayport	2	Low
Lofton Oaks Grid	10	Low
Ponte Vedra Grid	4	Low
Ponce de Leon Grid		Low



Jacksonville's Water Grid

JEA's Major Grid provides water to most of Duval County and the northwest portion of St. Johns County. JEA also supplies water to Mayport, the Yulee and Wildlight areas of Nassau County, and from Ponte Vedra south to Vilano Beach along A1A. Additionally, along the Intracoastal Waterway in Palm Valley there is one small area that gets its water through an interconnection with the St. Johns County Utility Department. Our grid arrangements provide reliable water service backup as needed, particularly during emergencies or periods of routine plant maintenance shutdowns. For additional information, visit jea.com/drinkingwater.

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 indicating the total hardness found in all JEA-serviced zip codes can be found at jea.com/hardness.

H2.0 Purification



Planning for JEA's water purification program began in 2014 with a three-phase multi-year program consisting of pilot testing, demonstration, and implementation. JEA has branded the water purification program H2.0®, as a nod to the 2.0 version of JEA's water (H2O) supply. Construction began on phase two—JEA's H2.0® Purification Center—in September 2023, with the planned opening due late 2025.

The purification process to be demonstrated at the Center is similar to what nature does through rainfall replenishing the aquifer—only with a smaller footprint, in a shorter amount of time. This multi-barrier purification process is based on membrane and advanced oxidation technology which will provide JEA long-term aquifer sustainability to meet future water needs and help educate our community.

Upon completion of the one million gallon per day facility, the Center will be used to showcase purification technology, while engaging the public and stakeholders in this process. It will include a visitor education area and serve as training facility for JEA staff and industry leaders.

Through the H2.0® Purification Program, JEA continues its role as a leader in ensuring a safe, reliable, locally controlled water supply that is essential for healthy environments, robust economies and a high quality of life.



The JEA H2.0® Purification Center

JEA's Rivertown Water Treatment Plant

The JEA Rivertown Water Treatment Plant is a new facility being built to serve JEA's service area in the rapidly growing northern St. Johns County, which includes RiverTown, a new 4,170-acre master-planned community along the St. Johns River. The new water treatment plant, which began construction in October 2021, will support future growth in St. Johns County, while providing improved water pressure and system reliability to all our customers in the area. The first phase of the plant went online in April 2023 in order to meet the high water-demand of spring and summer. After a year-long delay due to contractor issues, construction resumed in March 2024 and is projected to be completed by December 2024. The first phase of the plant continues to produce and distribute potable water to JEA's customers.



WATER QUALITY MONITORING RESULTS

System	Major Grid			Mayport			Lofton Oaks Grid			Ponce de Leon Grid		
Contaminant & Unit of Measure	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results
Radioactive Contaminants												
Alpha emitters (pCi/L)	05/23	1.39	ND-1.39	ND	ND	ND	ND	ND	ND	11/19-08/20	4.66	ND-4.66
Radium 226+228 or combined radium (pCi/L)	05/23	2.41	ND-2.41	03/18	0.9	N/A	05/23	1.91	N/A	11/19-8/20	1.67	ND-1.67
Inorganic Contaminants												
Antimony (ppb)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic (ppb)	05/23	0.9	ND-0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium (ppm)	05/23	0.038	0.015-0.038	03/21	0.027	NA	5/23	0.033	0.030-0.033	03/21	0.019	0.016-0.019
Chromium (ppb)	05/23	0.893	ND-0.893	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide (ppb)	05/23	11	ND-11	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride	05/23	1.06	ND-1.06	03/21	0.68	N/A	05/23	0.96	0.81-0.96	03/21	1.07	1.01-1.07
Lead (point of entry) (ppb)	05/23	2.65	ND-2.65	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury (inorganic) (ppb)	05/23	0.046	ND-0.046	3/21	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate (as Nitrogen) (ppm)	05/23	0.13	ND-0.13	03/23	0.4	N/A	05/23	0.02	ND-0.02	03/23	0.05	ND-0.05
Nitrite (as Nitrogen) (ppm)	05/23	0.09	ND-0.09	03/23	0.4	N/A	ND	ND	ND	03/23	0.05	ND-0.05
Selenium (ppb)	05/23	6.16	ND-6.16	ND	ND	ND	ND	ND	ND	03/21	0.525	ND-0.525
Sodium (ppm)	05/23	126.43	8.18-126.43	03/21	13.678	N/A	05/23	25.63	21.12-25.63	03/21	62.82	32.34-62.82
Synthetic Organic Contaminants												
Di(2-ethylhexyl) phthalate (ppb)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Contaminants												
Dichloromethane (ppb)	05/23-11/23	10.3*	ND-10.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Stage 1 Disinfectants and Disinfection Byproducts**												
Chlorine (ppm)	01/23-12/23	1.11	0.20-1.99	01/23-12/23	0.95	0.24-1.62	01/23-12/23	0.92	0.2-1.98	01/23-12/23	0.95	0.2-1.86
Stage 2 Disinfectants and Disinfection Byproducts**												
Haloacetic Acids (five) (HAA5) (ppb)	01/23-12/23	32.24	9.9-39.15	04/23	22.63	N/A	01/23-12/23	24.31	11.39-41.87	01/23-12/23	12.65	2.26-24.02
TTHM [Total Trihalomethanes] (ppb)	01/23-12/23	70.49	26.59-94.81*	04/23	73.48	N/A	01/23-12/23	62.78	33.44-68.88	01/23-12/23	64.47	12.42-107.68*

* Although the MCL value was exceeded, the annual average results were below the MCL.

**Level Detected for Disinfectants and Disinfection Byproducts is the highest locational running annual average of monthly/quarterly averages if sampled monthly/quarterly, or the highest result if sampled annually.

Lead and Copper (Tap Water)												
System	Major Grid			Mayport			Lofton Oaks Grid			Ponce de Leon Grid		
Contaminant & Unit of Measure	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL
Copper (ppm)	07/23	0.08	0 of 86	07/23-08/23	1.04	1 of 12	06/23-08/23	0.02	0 of 34	07/23	0.12	0 of 11
Lead (ppb)	07/23	1.50	0 of 86	07/23-08/23	0.60	0 of 12	06/23-08/23	0.60	0 of 34	07/23	3.19	0 of 11
Secondary Contaminants												
System	Major Grid			Mayport			Lofton Oaks Grid			Ponce de Leon Grid		
Contaminant & Unit of Measure	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results
Chloride (ppm)	05/23	319	9.85-319	NR	NR	NR	NR	NR	NR	NR	NR	NR
Odor (threshold odor number)	05/23	44.7	ND-44.7	03/21	8	N/A	05/23	56.6	28.3-56.6	03/21-04/21	16	4-16
Sulfate (ppm)	NR	NR	NR	NR	NR	NR	NR	NR	NR	03/21-04/21	269	160-269
Total Dissolved Solids (ppm)	05/23	876	153-876	NR	NR	NR	NR	NR	NR	03/21-04/21	656	474-656

***Florida Source water is naturally high in dissolved minerals and some Secondary Contaminants exceeded the MCL. The concentration found in our water only affects the aesthetic quality (look, smell, taste) and is not associated with any adverse health effects. Note: St. Johns Forest WTP (Major Grid) has a FDEP waiver for Sulfate levels not to exceed 500 mg/L.

Ponte Vedra Grid			Palm Valley								
Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Violation Y/N	MCLG or MRDLG	MCL or MRDL	Likely Sources of Contamination		
ND	ND	ND	ND	ND	ND	N	0	15	Erosion of natural deposits		
ND	ND	ND	ND	ND	ND	N	0	5	Erosion of natural deposits		
5/23	0.53	ND-0.53	ND	ND	ND	N	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder		
ND	ND	ND	ND	ND	ND	N	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes		
5/23	0.037	0.021-0.037	05/23	0.023	0.021-0.023	N	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits		
ND	ND	ND	ND	ND	ND	N	100	100	Discharge from steel and pulp mills; erosion of natural deposits		
ND	ND	ND	ND	ND	ND	N	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories		
5/23	0.96	0.95-0.96	05/23	0.84	0.68-0.84	N	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm		
ND	ND	ND	ND	ND	ND	N	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder		
ND	ND	ND	ND	ND	ND	N	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland		
ND	ND	ND	ND	ND	ND	N	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		
ND	ND	ND	ND	ND	ND	N	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		
05/23	3.61	ND-3.61	ND	ND	ND	N	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines		
05/23	71.56	21.89-71.56	05/23	25.0	21.0-25.0	N	N/A	160	Salt water intrusion, leaching from soil		
05/23-10/23	0.72	ND-0.72	ND	ND	ND	N	0	5	Discharge from pharmaceutical and chemical factories		
ND	ND	ND	ND	ND	ND	N	0	5	Discharge from pharmaceutical and chemical factories		
01/23-12/23	0.85	0.22-1.98	01/23-12/23	1.3	0.26-1.97	N	4	4.0	Water additive used to control microbes		
07/23	17.00	15.57-17.00	10/23	26.09	19.69-26.09	N	N/A	60	By-product of drinking water disinfection		
07/23	75.63	42.87-75.63	10/23	61.81	50.60-61.18	N	N/A	80	By-product of drinking water disinfection		

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, 2023 Data obtained before January 1, 2023, 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 800-426-4791**.

TERMS & ABBREVIATIONS



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

- Action Level (AL)** - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- 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 a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- 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.
- Non-Detect (ND)** - means not detected and indicates that the substance was not found by laboratory analysis.
- Not Required (NR)** - Secondary contaminants with sample results below the MCL are not required to be reported.
- 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.
- 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.
- Picocurie per liter (pCi/L)** - measure of the radioactivity in water.
- Variances and Exemptions** - State or EPA permission not to meet an MCL under certain conditions.

Note: MCLs are set at stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one-in-a-million chance of having the described effect.

UCMR RESULTS	Sample Date	Ponte Vedra Grid		Likely Source
		Average	Range of Results	
Metals				
Lithium (ppb)	06/23	4.71	ND-9.42	Naturally occurring where groundwater interacts with saline water.

Unregulated Contaminant Monitoring: JEA has been monitoring for Unregulated Contaminants (UC) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UC and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UC. However, we are required to publish the analytical results of our UC monitoring in our annual water quality report, which are shown above. Only contaminants that were detected are reported. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule (UCMR), please visit epa.gov/dwuomcr or call the Safe Drinking Water Hotline at (800) 426-4791.

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.

TTHM [Total Trihalomethanes]: TTHM [Total Trihalomethanes]: The following samples during 2023 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: 94.81 ppb (Oct)

Ponce de Leon Grid:

2371 S. Ponte Vedra Blvd.: 82.46 & 82.63 ppb (Jan), 81.81 ppb (Apr), 86.91 ppb (Jul), 107.68 ppb (Oct)

125 Tides Edge Place: 80.62 (Oct)

IMMUNO-COMPROMISED PERSONS



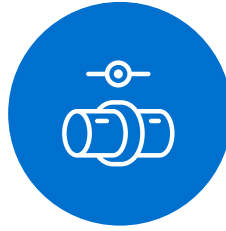
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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**.

JEA Water Conservation Tips

Indoor Conservation Tips



Fix leaks, including leaky toilets



Install high-efficiency toilets, aerators on bathroom faucets, and water-efficient shower heads



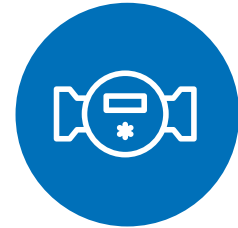
Take shorter (five minute) showers



Use dishwashers and washing machines with full loads only



Turn off water when brushing teeth or shaving



Track your water bill and meter to curtail water use

Outdoor Conservation Tips



Plant drought-tolerant/resistant plants and trees



Use a broom to clean driveways, patios, and sidewalks instead of water from a hose



Recycle indoor water to use on plants



Water your outdoor landscape earlier in the day when temperatures are cooler



Replace your grass/turf with water-wise plants



Refrain from watering your home landscape when it rains

Connect with us



For more information on JEA's water quality tests or to request a report, please contact us.

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Email: WaterQuality@jea.com

Online: jea.com/WQR2023

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In person: Printed copies are available at JEA's Downtown Customer Service Center and at every branch of the Jacksonville Public Library. JEA's board meetings are held 8 times per year at JEA's downtown offices, located at 225 N. Pearl Street, Jacksonville. The schedule is available at jea.com. The public is invited to attend.