

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2018



Presented By



Meeting the Challenge

The City of Stuart is pleased to present the annual water quality report, which covers all water quality analysis from January 1, 2018, to December 31, 2018. Over the years, the City has consistently produced drinking water that meets all federal and state standards. The City continues to explore new methods for delivering the highest-quality drinking water to our consumers. As new challenges to drinking water safety arise, the City is committed to protecting source water, promoting water conservation, and providing community education while continuing to serve the needs of all our water users.

Our Source Water

The City's water is obtained from the Surficial Aquifer through 24 production wells. The City's water treatment facility has a capacity to treat 6 million gallons of water per day. Major components consist of four air stripping towers, three solids contact units, three 1-million-gallon storage tanks, and five high-service pumps for distribution to our customers. Treatment consists of hardness and color reduction, filtration, disinfection, and fluoridation. The Stuart Water Treatment Facility provides an average of 3.1 million gallons of clean, safe drinking water every day to its consumers.



Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in 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 U.S. 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 (800) 426-4791.

QUESTIONS?

For questions about this report, or any questions about your water, please call Michael Woodside, Water Treatment Team Leader, at (772) 288-5343.



Water's Worth It

Water should be clear, but not invisible. Indispensable to jobs, the economy, our health, and our communities, water runs through our lives in many ways. Everyone uses water, and everyone must be responsible for it. To do that, we each need to learn to value water and come together to share an important message about water's worth.

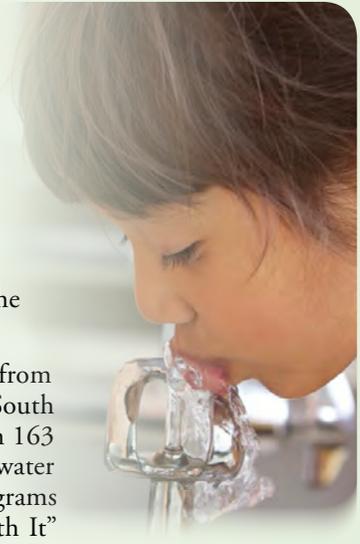
In 2007 the City of Stuart recognized that the average per-person water use was 32 percent higher than the state average. This includes indoor and outdoor use. In addition, the City gets its water from the Surficial Aquifer, the shallowest of all the aquifers and a source of limited supply.

Stuart adopted a Water Conservation Initiative Plan to reduce the overall per capita use from 219 to 191 gallons by 2028, as required in a consumptive use permit issued by the South Florida Water Management District. The City set an even more aggressive goal to reach 163 gallons per capita per day by 2028 in order to postpone the need for costly alternative water supplies. The City has taken proactive measures with various water conservation programs to ensure a healthy water supply for the future. Stuart has adopted the "Water's Worth It" campaign provided by the Water Environment Federation. Water's Worth It focuses on five essential components: Your Respect, Your Effort, Your Health, Your Future, and Our Passion. The City celebrates Water's Worth It with downtown pole banners, utility vehicle front license plates, uniform T-shirts for its utility employees, and information in the monthly utility bill newsletter.

Water's Worth It, along with other water conservation public outreach programs, has resulted in a 21-percent reduction in overall local water use. To help City residents learn more about water issues and how they can help, there are various water conservation programs within your community. Everyone who uses water is encouraged to join the City of Stuart in this coordinated effort to raise awareness about the value and importance of water. By combining our voices behind this campaign, each of us can contribute to a positive change.

Be as good to water as water's been to you. Water's worth it!

To learn more, visit www.cityofstuart.us or www.WatersWorthIt.org.



Source Water Assessment

In 2018 the Florida Department of Environmental Protection (FDEP) 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 35 potential sources of contamination identified for this system with a low to moderate susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

For each substance listed, compare the value in the Level Detected column against the value in the MCL (or AL, SMCL) column. If the Level Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

Date Sampled will show on which date the substance was detected. If multiple samples are taken over a period of time, the column will show the range of different sample dates.

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means that only a single sample was taken to test for the substance (assuming there is a reported value in the Level Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Likely Source.



BY THE NUMBERS

The number of Olympic-sized swimming pools it would take to fill up all of Earth's water.

800
TRILLION

1
CENT

The average cost for about 5 gallons of water supplied to a home in the U.S.

The amount of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers.

99%

50
GALLONS

The average daily number of gallons of total home water use for each person in the U.S.

The amount of Earth's surface that's covered by water.

71%

330
MILLION

The amount of water on Earth in cubic miles.

The amount of Earth's water that is available for all of humanity's needs.

1%

75%

The amount of the human brain that contains water.

Sampling Results

This annual report is designed to inform you about the quality of the City's drinking water. 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 contaminants. The table below shows only those contaminants that were detected in the water. The State of Florida requires that the City monitor for certain substances less than once per year, as the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Fluoride (ppm)	06/22/2018	No	0.70	NA	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
Nitrate [as Nitrogen] (ppm)	05/23/2018	No	0.22	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [as Nitrogen] (ppm)	05/23/2018	No	0.033	NA	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	05/22/2018	No	21.0	NA	NA	160	Salt water intrusion; leaching from soil

Stage 1 Disinfectants and Disinfection By-Products

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MRDLG	MRDL	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	05/23/2018	No	3.1	2.0–3.4	4	4.0	Water additive used to control microbes

Stage 2 Disinfectants and Disinfection By-Products

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5] (ppb)	11/15/2018	No	25.9	25.3–34.2	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	11/15/2018	No	35.7	33.7–58.2	NA	80	By-product of drinking water disinfection

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

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	07/28/2016	No	0.058	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	07/28/2016	No	0.9	0	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 (YES/NO)	HIGHEST RESULT	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Aluminum (ppb)	05/29/2018	No	58	NA	NA	200	Natural occurrence from soil leaching
Chloride (ppm)	05/23/2018	No	25.0	NA	NA	250	Natural occurrence from soil leaching
Sulfate (ppm)	05/23/2018	No	21.0	NA	NA	250	Natural occurrence from soil leaching

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.