

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2017



PRESENTED BY



CLEARWATER
BRIGHT AND BEAUTIFUL • BAY TO BEACH

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

PWS ID#: FL6520336

Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education, while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Community Participation Is Welcome

You are invited to participate in regularly scheduled meetings. The city of Clearwater Council normally meets at 6 p.m. on the first and third Thursdays of each month at City Hall, 112 S. Osceola Ave., Clearwater, FL. The meeting agendas are published on the city's website at www.myclearwater.com. For more information, call (727) 562-4090.

The Pinellas County Board of County Commissioners meets typically twice a month (usually, but not always) on the first and third Tuesdays of the month. The earlier meeting in the month begins at 9:30 a.m. Meetings in the latter part of the month are held in two parts. Agenda items are discussed with the board at 2 p.m., after which there is a break and the board reconvenes at 6 p.m. The public is invited to attend these meetings held in the 5th floor Assembly Room of the Pinellas County Courthouse, located at 315 Court St. in Clearwater. For more information, call (727) 464-3485.

Tampa Bay Water's Board of Directors meetings occur on the third Monday of every other (even) month at 9 a.m. at Tampa Bay Water, 2575 Enterprise Road in Clearwater. For more information, visit their website at www.tampabaywater.org or call (727) 796-2355.

Where Does My Water Come From?

City of Clearwater residents use approximately 11.5 million gallons of potable water every day. Approximately 60 percent is pumped from city-owned and operated ground-water wells; the remaining daily demand is supplied by water purchased from Pinellas County Utilities. The ground-water source for Clearwater comes from a ground-water supply called the Floridan Aquifer. This aquifer is one of the major sources of ground water in the United States and underlies all of Florida, southern Georgia, and small parts of adjacent Alabama and South Carolina.

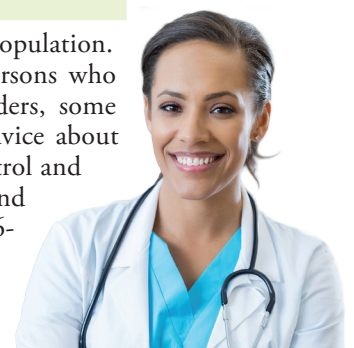
Pinellas County Utilities receives drinking water from Tampa Bay Water, a regional water supplier, which, in turn, becomes part of the water supplied to the residents of Clearwater. The water supplied by Tampa Bay Water is a blend of ground water, treated surface water, and desalinated seawater. Eleven regional wellfields, pumping from the Floridan Aquifer, are the primary source for the regional ground-water supply. The Alafia River, the Hillsborough River, C.W. Bill Young Regional Reservoir, and the Tampa Bypass Canal are the primary supplies for the regional treated surface water supply. Hillsborough Bay is the primary supply of seawater for the regional desalinated supply. For more information on the Tampa Bay Water system, visit their website at www.tampabaywater.org.

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 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 www.epa.gov/safewater/lead.

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>.



City Water Treatment Plants

Clearwater has three water treatment plants, two of which are reverse-osmosis (RO) water treatment plants.

How Is My Water Treated?

Clearwater uses Best Available Treatment (BAT) technologies to ensure that the drinking water delivered to our consumers meets or exceeds all drinking water standards. The city produces its own water and purchases the rest from Pinellas County Utilities to meet the water demand of city residents.

At RO Plant No. 1, water from wells in the Upper Floridan Aquifer is filtered to remove suspended solids such as iron. Then, it is processed by reverse osmosis to remove selected dissolved molecules, including hardness-causing salts. The water is disinfected using monochloramines, stabilized to protect the pipeline system, and is then pumped to consumers.

At RO Plant No. 2, brackish water from the lower portions of the Upper Floridan Aquifer is treated by reverse osmosis to remove selected dissolved molecules, including hardness-causing salts. The water is then treated with ozone to remove sulfide, disinfected using monochloramines, and stabilized to protect the pipeline system and is then pumped to consumers.

At Water Plant No. 3, raw water from the Upper Floridan Aquifer is blended with water supplied by Pinellas County Utilities, disinfected using monochloramines, stabilized to protect the pipeline system, and is then pumped to consumers.

Source Water Assessment

In 2017, the Florida Department of Environmental Protection performed 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 52 potential sources of contamination identified for this system with low to moderate susceptibility levels. There are five potential sources of contamination identified for this system with a high susceptibility levels.

Between 2004 and 2017, the Department of Environmental Protection performed Source Water Assessments for Tampa Bay Water facilities. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of the Tampa Bay Water surface water intakes. The surface water system is considered to be at high risk because of the many potential sources of contamination present in the assessment area.

The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp or they can be obtained from Tampa Bay Water, 2575 Enterprise Road, Clearwater, FL 33763, (727) 796-2355.

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 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.

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?

Please contact the Water Production Coordinator, Fred Hemerick, at (727) 562-4627 if you have questions about this report.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring for certain substances less than once per year because 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.

PRIMARY REGULATED CONTAMINANTS

Microbiological Contaminants		City of Clearwater			Pinellas County Utilities					
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	TOTAL NUMBER OF POSITIVE SAMPLES FOR THE YEAR		DATE OF SAMPLING (MO./YR.)	TOTAL NUMBER OF POSITIVE SAMPLES FOR THE YEAR		MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
<i>E. coli</i> ^a (# positive samples)	No	1/2017-12/2017	5		1/2017-12/2017	0		0	see footnote 2	Human and animal fecal waste
Total Coliform Bacteria (positive samples)	No	1/2017-12/2017	0		1/2017–12/2017	0		NA	TT	Naturally present in the environment
Radioactive Contaminants										
		City of Clearwater			Pinellas County Utilities					
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Alpha Emitters (pCi/L)	No	4/2017, 5/2017, 10/2017	6.1	ND–6.1	3/2011	0.806	ND–0.806	0	15	Erosion of natural deposits
Radium 226 + 228 [Combined Radium] (pCi/L)	No	4/2017, 5/2017, 10/2017	3.21	1.814–3.21	NA	NA	NA	0	5	Erosion of natural deposits
Uranium (ppb)	No	4/2017, 5/2017, 10/2017	0.24	ND–0.24	NA	NA	NA	0	30	Erosion of natural deposits
Inorganic Contaminants										
Arsenic (ppb)	No	5/2017	2.7	0.46–2.7	3/2017	0.3	NA	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	No	4/2017, 5/2017	0.0189	0.0085–0.0189	3/2017	0.0136	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	No	4/2017, 5/2017	2.7	ND–2.7	3/2017	3.2	NA	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	No	4/2017, 5/2017	0.73	ND–0.73	3/2017	0.6	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nickel (ppb)	No	4/2017	2.1	ND–2.1	3/2017	2.4	NA	NA	100	Pollution from mining and refining operations; natural occurrence in soil
Nitrate [as Nitrogen] (ppm)	No	4/2017, 5/2017	0.093	ND–0.093	3/2017	0.05	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	No	4/2017, 5/2017	88.1	40–88.1	3/2017	27.3	NA	NA	160	Saltwater intrusion; leaching from soil
Synthetic Organic Contaminants, Including Pesticides and Herbicides										
Dalapon (ppb)	No	4/2017, 5/2017, 10/2017	ND	NA	3/2017, 5/2017	1.1	ND–1.1	200	200	Runoff from herbicide used on rights of way
Volatile Organic Contaminants										
cis-1,2-Dichloroethylene (ppb)	No	4/2017, 5/2017, 10/2017	0.62	ND–0.62	NA	NA	NA	70	70	Discharge from industrial chemicals

PRIMARY REGULATED CONTAMINANTS														
Stage 1 Disinfectants and Disinfection By-Products														
		City of Clearwater			Pinellas County Utilities			Tampa Bay Water						
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION	
Bromate (ppb)	No	1/2017–12/2017	6.13	ND–14.6	NA	NA	NA	NA	NA	NA	0	10	By-product of drinking water disinfection	
Chlorine (ppm)	No	1/2017–12/2017	2.82	0.3–4.8	1/2017–12/2017	3.7	1.1–5.0	NA	NA	NA	[4]	[4.0]	Water additive used to control microbes	
		City of Clearwater			Pinellas County Utilities			Tampa Bay Water						
CONTAMINANT AND UNIT OF MEASUREMENT	TT VIOLATION (YES/NO)	DATE OF SAMPLING (MO/YR)	ANNUAL AVERAGE MONTHLY REMOVAL RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	RANGE OF MONTHLY REMOVAL RATIOS	DATE OF SAMPLING (MO/YR)	ANNUAL AVERAGE MONTHLY REMOVAL RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	RANGE OF MONTHLY REMOVAL RATIOS	DATE OF SAMPLING (MO/YR)	ANNUAL AVERAGE MONTHLY REMOVAL RATIO OR LOWEST ANNUAL AVERAGE MONTHLY REMOVAL RATIO	RANGE OF MONTHLY REMOVAL RATIOS		MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Total Organic Carbon ³ (ppm)	No	1/25/16	2.1	NA	NA	NA	NA	1/2017–12/2017	3.7	1.63–3.8		NA	TT	Naturally present in the environment
Stage 2 Disinfectants and Disinfection By-Products														
		City of Clearwater			Pinellas County Utilities			Tampa Bay Water						
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	DATE OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION	
Haloacetic Acids (five) [HAA5] (ppb)	No	1/2017, 5/2017, 7/2017, 10/2017	26.3	5.6–28.8	2/2017, 5/2017, 8/2017, 11/2017	27.55	14.90–37.30	NA	NA	NA	NA	60	By-product of drinking water disinfection	
TTHM [Total trihalomethanes] (ppb)	No	1/2017, 5/2017, 7/2017, 10/2017	58.1	28.9–69.1	2/2017, 5/2017, 8/2017, 11/2017	43.10	27.50–49.80	NA	NA	NA	NA	80	By-product of drinking water disinfection	
Lead and Copper (Tap water samples were collected from sites throughout the community)														
		City of Clearwater			Pinellas County Utilities									
CONTAMINANT AND UNIT OF MEASUREMENT	AL EXCEEDANCE (YES/NO)	DATE OF SAMPLING (MO./YR.)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	DATE OF SAMPLING (MO./YR.)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION				
Copper [tap water] (ppm)	No	7/2017, 8/2017	0.496	1	7/2017, 8/2017	0.5	1	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives				
Lead [tap water] (ppb)	No	7/2017, 8/2017	0.69	1	7/2017, 8/2017	1.6	1	0	15	Corrosion of household plumbing systems, erosion of natural deposits				
SECONDARY CONTAMINANTS (CITY OF CLEARWATER)														
CONTAMINANT AND UNIT OF MEASUREMENT	MCL VIOLATION (YES/NO)	DATE OF SAMPLING (MO./YR.)	HIGHEST RESULT	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION							
Color (Units)	Yes ⁴	4/2017, 5/2017	21	ND–21	NA	15	Naturally occurring organics							

¹ Although *E. coli* was detected, the water system is not in violation of the *E. coli* MCL.

² MCL: Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or the system fails to take repeat samples following *E. coli*-positive routine sample or the system fails to analyze total coliform-positive repeat sample for *E. coli*.

³ The monthly TOC removal ratio is the ratio between the actual TOC removal and the TOC rule removal requirements.

⁴ As noted in the table above, the only secondary contaminant in your water that exceeded the MCL was color, which is regulated by the Secondary Drinking Water Regulations pursuant to section 1412 of the Safe Drinking Water Act, as amended (42 U.S.C. 300g-1). These regulations control contaminants in drinking water that primarily affect the aesthetic qualities relating to the public acceptance of drinking water. The regulations are not federally enforceable but are intended as guidelines for the States.

Definitions

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.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

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).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.