

Quality on Tap

2015 Water Quality Report

This report is a requirement of the Safe Water Drinking Act Amendments of 1996.

The Tampa Water Department 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 monitoring between Jan. 1, 2015 and Dec. 31, 2015. Data obtained before Jan. 1, 2015, and presented in this report are from the most recent testing performed in accordance with laws, rules and regulations.

The Tampa Water Department is part of the City of Tampa government. Our legislative branch is the Tampa City Council, which holds hearings on budget and other financial matters, approves contracts and considers ordinances that create or amend local laws, some of which affect the operation of the department. The City Council meets on Thursdays at 9 a.m. in City Hall, 315 E. Kennedy Blvd., third floor chambers. The meetings are televised live on the local government access cable channel, either Channel 15 or 640, depending on your cable provider. Agendas for upcoming meetings may be requested from the City Clerk's office, (813) 274-8397, or viewed online at tampagov.net.



Este es un importante informe sobre la calidad de su agua. Con mucho gusto, te contamos la agua de Tampa cumple o excede los requisitos estatales y federales. Si no tienes a alguien que pueda traducir este informe, llame al Departamento de Agua de la Ciudad de Tampa a (813) 274-8111 para obtener ayuda.

Letter from the Director

Dear Tampa Water Customer:

We are very pleased to provide you with Tampa's 2015 Annual Water Quality Report and the good news it contains about your drinking water.

This report is designed to provide you with important information about the water we deliver to you every day and to suggest ways you can help us protect and conserve our source water for Tampa's continued prosperity. We invite you to read this report thoroughly and to keep it on hand as a reference throughout the year.

In 2015, we collected approximately 7,200 water samples and completed approximately 32,000 laboratory analyses of both our source water and our finished drinking water to ensure that the water you receive is safe, clean and offers premium quality at an affordable price.

The data included in this annual report reflects the results of those laboratory analyses, and, in reviewing it, I see that there is an important issue to highlight. Tampa's water continues to meet or exceed state and local regulatory requirements. You will notice that there is no lead data in the Lead and Copper section of the report. This is because there was no lead detected at the 90th percentile result.

The lead problem in Flint, Michigan, has been in the news a lot lately. I assure you that Tampa's Water Department takes the lead issue very seriously and will not allow an issue like that experienced in Flint to occur in Tampa.

There are two primary factors that contributed to the problem in Flint. Flint has lead service lines and allowed corrosive water to enter their distribution system. Tampa does not have lead service lines, and Tampa has a proactive corrosion control program. The corrosivity of the water is monitored on a daily basis in Tampa and our water treatment processes are adjusted in response to make sure that the water leaving the treatment plant never is corrosive.

As a result of Tampa's proactive corrosion control and the absence of lead service lines, lead is not detectable, even at less than one part per billion, in over 90 percent of the samples collected from customer taps in the distribution system.

All of us at the Tampa Water Department are proud to be a part of the team that works round-the-clock to provide Tampa with a reliable supply of quality drinking water. We look forward to continuing to deliver each and every account holder superior drinking water and superior customer service in 2016 and beyond.



Where Does Tampa's Drinking Water Come From?

The Hillsborough River is Tampa's primary drinking water source. When the river supply cannot meet community demand during dry periods, up to 1 billion gallons of finished water stored underground in Aquifer Storage and Recovery (ASR) augments our supply. At times, during extended or extreme dry periods, Tampa also buys treated regional groundwater, surface water and desalination seawater from Tampa Bay Water (TBW). During 2015, none of Tampa's drinking water was purchased from TBW.

In 2015, the Florida Department of Environmental Protection updated its Source Water Assessment on our system. The assessment was conducted to provide information about any

potential sources of contamination in the vicinity of our water sources. Three of our ASR wells have a moderate susceptibility for potential contamination from nearby petroleum storage tanks and a hazardous waste facility. The surface water system is considered to be at high risk because of a variety of potential sources of contamination present in the assessment area. The assessment results are available online from the FDEP Source Water Assessment and Protection Program at dep.state.fl.us/swapp.

Our water source – the Hillsborough River – is the heart of our city, our way of life and our future.

How Our Water is Treated

Tampa delivers water to about 600,000 people living and working in Tampa each day. Delivering superior water and providing outstanding customer service is our daily goal. Before our drinking water goes into our distribution system on its way to you, it is treated using the following steps:

Rapid Mix: Naturally occurring organic matter found in Florida streams and rivers gives the Hillsborough River its tea-like color. A coagulant, ferric sulfate, and sulfuric acid are added to the water, and they react with the organic matter to form substances called floc. The floc acts as a nucleus to attract the suspended particles in the water.

Flocculation: During this step, polymers are added to the water, which is mixed to allow the floc particles to form larger, heavier floc solids.

Sedimentation: After flocculation, the water is allowed to gently flow into rectangular settling basins. As the water moves down the length of the basin, the floc settles to the bottom. Clear, settled water is collected at the basin ends. Computerized traveling siphon bridges clean the basin bottoms, and settled floc vacuumed from the bottom is further treated and removed.

Stabilization and Disinfection: Clear water is collected at the end of the settling basins and is treated with ozone. Ozone is a strong oxidant capable of destroying harmful bacteria and viruses and inactivating microbial pathogens such as Giardia and Cryptosporidium. Ozone also destroys taste and odor causing compounds. Lime is added to the water before ozonation to stabilize the pH of the treated water.

Filtration: The treated water is filtered through mixed bed filters containing sand and activated carbon. The filters are periodically backwashed to remove collected particles for dewatering and disposal.

Final Disinfection: After filtration, chlorine and ammonia are added to the treated water to prepare it for storage. The added chemicals combine to produce a disinfectant called monochloramine. This compound serves as the final residual disinfectant for the finished water to ensure its quality from our plant to your tap. Fluoride is added to provide dental health benefits. Sodium hydroxide is added to produce the final desired drinking water pH before storage and distribution.

You Can Help Protect our Source 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 and through the ground, it dissolves naturally occurring minerals and, in some cases radioactive materials, 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, that 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 that 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 that may be naturally-occurring or be the result of oil and gas production and mining activities.

At the Tampa Water Department we work around the clock to provide top quality water to every tap we serve. We ask that all our customers help us protect our water sources. You can help protect your community's drinking water source in several ways, including:

- Eliminate excess use of lawn and garden fertilizers and pesticides.
- Pick up after your pets.
- If you have your own septic system, maintain it properly or consider connecting to the public water system.
- Dispose of chemicals properly.
- Do not flush unused or unwanted medication down toilets or sink drains.

Access the Environment and Water Quality tab at tampagov.net/Stormwater for more about Source Water protection.

Turbidity							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	July 2015	N	0.20	100%	N/A	TT	Soil runoff
<i>The result in the lowest monthly percentage column is the lowest monthly percentage of samples, reported in the Monthly Operating Report, meeting the required turbidity limits.</i>							

Inorganic Contaminants							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	May 2015	N	1.9	1.9	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Asbestos (MFL)	March 2011	N	0.20	0.20	7	7	Decay of asbestos cement water mains; erosion of natural deposits.
Barium (ppm)	May 2015	N	0.0097	0.0097	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium (ppb)	May 2015	N	0.83	0.83	100	100	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride (ppm)	May 2015	N	0.22	0.22	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.
Nickel (ppb)	May 2015	N	3.9	3.9	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil.
Nitrate (as Nitrogen) (ppm)	May 2015	N	0.41	0.41	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Selenium (ppb)	May 2015	N	5.5	5.5	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
*Sodium (ppm)	May 2015	N	40	40	N/A	160	Salt water intrusion, leaching from soil.
<i>Results in the Level Detected column are the highest detected level at any sampling point. *The Florida Department of Environmental Protection (FDEP) has set the drinking water standard for sodium at 160 parts per million (ppm) to protect individuals who are susceptible to sodium sensitive hypertension or diseases that cause difficulty in regulating body fluid volume. Sodium is monitored so that individuals who have been placed on sodium (salt) restricted diets may take into account the sodium in their drinking water. Drinking water contributes only a small fraction (less than 10 percent) to the overall sodium intake. If you have been placed on a sodium restricted diet, please inform your physician that our water contains 40 ppm of sodium.</i>							

FOR MORE INFORMATION ABOUT . . .

Water Quality:

Call the U.S. Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791

Local Drinking Water Quality:

Call the Hillsborough County Department of Health, Environmental Health Services at (813) 307-8059

Commonly Requested Information

Hardness: 140 – 300 ppm or 8 – 17 grains/gallon

pH: 7.3 – 8.1 (average range, may vary by season)

As a City of Tampa enterprise department, our legislative branch is the Tampa City Council, which holds hearings on budget and other financial matters, approves contracts and considers contracts and ordinances, some affecting the operation of the Tampa Water Department. City Council meets on Thursdays at 9 a.m. in City Hall, 315 E. Kennedy Blvd. Meetings are televised live on the local government access channel, and agendas for upcoming meetings may be requested from the City Clerk's office, (813) 274-8397, or viewed online at tampagov.net.

Stage 1 Disinfectants and Disinfection By-Products							
Disinfectant or Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Bromate (ppb)	Monthly 2015	N	2.0	ND – 3.5	MCLG = 0	MCL = 10	By-product of drinking water disinfection.
Chloramines (ppm)	Daily 2015	N	3.5	1.0 – 3.9	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes.
<i>For bromate and chloramines the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.</i>							
Stage 2 Disinfection By-Products							
Haloacetic Acids (five) (HAA5) (ppb)	November 2015	N	11.4	3.30 – 14.41	N/A	MCL = 60	By-product of drinking water disinfection.
TTHM [Total trihalomethanes] (ppb)	May 2015	N	25.6	12.0 – 33.1	N/A	MCL = 80	By-product of drinking water disinfection.
<i>The results in the level detected for haloacetic acids and total trihalomethanes are based on a locational running annual average. The range of results is lowest to highest at individual sampling sites.</i>							
Organic Compounds							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon (ppm)	Weekly 2015	N	2.03	1.76 - 2.63	N/A	TT	Naturally present in the environment.
<i>The monthly TOC removal ratio is the ratio between the actual TOC removal and the required TOC removal.</i>							
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	AL Exceeded (Y/N)	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	July-September 2014	N	0.04	None	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Unregulated Contaminants							
Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected	Range of Results	Likely Source of Contamination			
Chromium, Total (ppb)	July 2014 October 2014 January 2015 April 2015	0.51	ND – 0.51	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.			
Chromium - 6 (ppb)	July 2014 October 2014 January 2015 April 2015	0.110	0.043-0.110	Naturally-occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.			
Strontium (ppb)	July 2014 October 2014 January 2015 April 2015	270	120 – 270	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.			
Vanadium (ppb)	July 2014 October 2014 January 2015 April 2015	0.26	ND – 0.26	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.			
<i>The level detected is the highest level detected over a 12 month sampling period for all sites collected.</i>							
<i>The City of Tampa DLT Water Treatment Facility has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UCs. However, we are required to publish the analytical results of our UC monitoring in our annual water quality report. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.</i>							

Table Definitions

Range of Results - The range, lowest to highest, of compounds detected in finished water processed by the Tampa Water Department.

Units - ppm (parts per million) - The equivalent of 1 cent in \$10,000; ppb (parts per billion) - The equivalent of 1 cent in \$10 million; MFL (million fibers per liter) - A measure of the presence of asbestos fibers that are longer than 10 micrometers.

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

MCL (Maximum Contaminant Level) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goals (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 Goals) - The level of 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.

N/A - Not applicable.

ND - Not detected. Indicates that the substance was not found by laboratory.

NTU (Nephelometric Turbidity Unit) - Measure of the clarity of the water. Turbidity in excess of 5 NTU is just noticeable to the average person. Monitored as an indicator of the effectiveness of filtration systems. High turbidity can hinder the effectiveness of disinfectants.

Sources - The major sources of the compounds detected in the finished water.

Trihalomethanes - Compounds formed during chloramination (disinfection) of drinking water. 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 system and may have an increased risk of getting cancer.

What We Test For

Our highly-trained microbiologists, chemists and licensed water treatment professionals test for more than 100 regulated and unregulated contaminants commonly found in drinking water. Our on-site, state-of-the-art laboratory continuously

tests Tampa's drinking water daily to ensure that only the highest quality drinking water is sent to your homes and businesses. If a known health-related contaminant is not listed in this report, it was not detected in Tampa's water.

For Customers with Special Health Concerns

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 less the risk of infection for *Cryptosporidium* or other microbiological contaminants are available from the Safe Drinking Water Hotline (800) 426-4791.

Drinking Water Regulation

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.

What You Should Know About Certain Contaminants

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. The Tampa Water Department 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. Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced. If you are concerned about lead in your water, you may wish to have it 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 epa.gov/lead.

Cryptosporidium and *Giardia*

Cryptosporidium and *Giardia* are microscopic organisms that may enter surface waters from runoff containing animal wastes. If ingested, *Cryptosporidium* and *Giardia* may cause diarrhea, fever and other gastrointestinal symptoms. In the 24 years that the Tampa Water Department has tested for *Cryptosporidium* and *Giardia*, the organisms have never been detected in the finished water. The Tampa Water Department tests for *Cryptosporidium* and *Giardia* in both the raw and finished water. Samples of our finished and raw water were

collected an average of twice a month during 2015. In 2015, it was found that 60 percent of the raw water were found to contain these organisms. *Cryptosporidium* and *Giardia* were not found in any of the finished water samples. Environmental Protection Agency and Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

Arsenic

While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water.

EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Additional Information about Your Water and Your Water Service

Dollar for dollar, Tampa's drinking water is a bargain. At our lowest residential tier rate, \$1 buys 357 gallons of high quality water for your family. At our lowest non-residential rate, that same \$1 buys 307 gallons of quality water for your business. Of course, our water rates are tiered to encourage water conservation. The more water you use, the more expensive each gallons becomes. For help saving water to save cash, call our Water Efficiency team at (813) 274-8121, option #5.

When there is a loss in water pressure, either due to a broken water pipe, loss of power and/or system pressure, or

a scheduled outage for repairs, a Precautionary Boil Water Notice (PBWN) is issued. When the number of affected customers is limited, each affected household or business is informed individually using a printed notice hung on the front door. Otherwise, the Tampa Water Department publishes Precautionary Boil Water Notices in these ways: media releases, RSS feeds, informational Alert Tampa emails, "The Pipeline" electronic newsletter, Twitter, and Facebook. See more about PBWNs at tampagov.net/boilwaternotice, and follow the monthly performance metrics our department provides to Mayor Buckhorn at tampagov.net/Water.

To Continue its Role as a Leader in the Drinking Water Community, the Tampa Water Department is...

- An active member of the Partnership for Safe Water, an organization of more than 200 water utilities voluntarily implementing programs exceeding those required by legislation or regulation. Tampa is the first utility in Florida to receive the Partnership's 15-Year Directors Award by demonstrating our continuing commitment to provide safe water.



- An active member in the Association of Metropolitan Water Agencies, formed in 1981 to represent the interests and concerns of the nation's larger publicly owned drinking water systems. The association's membership serves more than 130 million people from Alaska to Puerto Rico with drinking water.



- An active member in the American Water Works Association, a clearinghouse of water supply information and expertise with more than 60,000 members worldwide.



- A promotional partner in the United States Environmental Protection Agency's WaterSense program, working to protect the future of our nation's water supply by promoting and enhancing the market for water-efficient products and services.



- An active member of the Alliance for Water Efficiency, a stakeholder-based 501(c)(3) nonprofit organization, dedicated to the efficient and sustainable use of water. The Alliance serves as a North American advocate for water efficient products and programs, and provides information and assistance on water conservation efforts.



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