

What does the utility do to assure my drinking water complies with federal and state standards?

Before water ever reaches your tap, it goes through a multi-step treatment process.

Where does my water come from?

Your tap water originates from the Biscayne Aquifer, which lies 50-200 feet underground. The Aquifer is comprised primarily of limestone and sand. Recharge is received from rainwater and surface canals.

Biscayne Aquifer

As a groundwater source, the Aquifer is naturally protected from undesirable microbial pathogens that are common in surface water supplies. This is due to the natural filtration that occurs in the Aquifer and the amount of time the water resides in the ground prior to being withdrawn.

Source Water Assessment

The State of Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment on our systems in 2014. The report(s) indicated no unique potential contaminant sources in District 1A and no unique potential contaminant sources in District 2A. In 2014, FDEP performed a Source Water Assessment for the City of Hollywood which provides water for our 3A and 3B/C systems. The assessment results are available on the FDEP Source Water Assessment Protection Program website at dep.state.fl.us/swapp.

Softening

At the water treatment plant, the ground water is initially treated with lime and ferric chloride to reduce hardness and color. During this step of the treatment process,

chemicals are added so that most of the hardness and particles in the water can be easily removed.

Fluoridation

Following softening, fluoride is added for enhanced protection against tooth decay.

Filtration

Filtration is used following softening to further purify the softened water by removing the remaining particulate matter from the treated water.

Disinfection

Disinfection, which is the final treatment step, is accomplished by the addition of chlorine and ammonia, otherwise known as chloramines. A small amount (residual levels) of chloramines disinfectant is maintained throughout the distribution system in order to control microbial regrowth.

Dewatering

Solids that settle out during the treatment process are collected and pumped to a settling basin, where they are thickened. The thickened solids are pumped to a vacuum filter, which removes excess water.

Monitoring

Water and Wastewater (WWS) has been monitoring for unregulated contaminants (UCs) as part of a study to help the 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.

More than 23,000 tests are performed each year to comply with national standards in WWS' NELAP* certified drinking water laboratory.

WWS also employs certified water treatment operators who conduct more than 317,000 process control tests annually. These tests ensure that the water treated and delivered to Broward County customers meets or exceeds all federal requirements for safe drinking water under the Safe Drinking Water Act.

The following provided table lists the parameters set by the Safe Drinking Water Act and the levels detected in potable water for Districts 1A, 2A, 3A and 3B/C. This report includes the results of our monitoring for the period of January 1 to December 31, 2014. Data obtained before January 1, 2014, and presented in this report, are from the most recent testing done in accordance with drinking water laws, rules and regulations.

* National Environmental Laboratory Accreditation Program (NELAP Institute/TNI)

Dear Customers,



Broward County Water and Wastewater Services (WWS) is pleased to provide you with its 2014 Water Quality Report. In 2014, WWS continued its 53-year-old tradition of providing high quality drinking water to our customers at a reasonable price. Once again, our water met or exceeded all standards of the federal Safe Drinking Water Act.

2014 also marked the 40th anniversary of the Safe Drinking Water Act. The Act was passed to protect public health by regulating the nation's public drinking water supply. Water Quality Reports, also known as Consumer Confidence Reports (CCRs), are the centerpiece of the right-to-know provisions in the 1996 Amendments to the Safe Drinking Water Act. These reports enable Americans to make practical, knowledgeable decisions about their health and their environment.

Since 1999, WWS has prepared, printed and mailed nearly 50,000 reports per year at an average annual cost of \$22,000. In 2013, the EPA revised the CCR Rule to allow community water systems to provide their CCRs electronically. This new delivery option introduces an efficient way to reach customers and will result in a reduced environmental impact (lessens paper use) and cost savings.

Therefore, WWS is proud to present you with its first electronic Water Quality Report at Broward.org/WaterServices/WaterQualityReport. We encourage you to review this report in its entirety as it contains important information about the source and quality of drinking water delivered to your community in 2014.

Thank you for your continued support and allowing us to be of service to you.

Alan W. Garcia, P.E., Director
Broward County Water and Wastewater Services

WATER AND WASTEWATER SERVICES:

2555 West Copans Road,
Pompano Beach, FL 33069

Broward.org/Waterservices

GENERAL INFORMATION:

Customer Service
Phone: **954-831-3250**

EMPLOYMENT INFORMATION:

Phone: **954-357-JOBS**
Broward.org/Careers

ADDITIONAL INFORMATION:

**Environmental Protection Agency
Safe Drinking Water Hotline**
Phone: **800-426-4791**
epa.gov/safewater

National Centers for Disease Control
Phone: **800-232-4636**
cdc.gov

American Water Works Association
Phone: **800-926-7337**
awwa.org

South Florida Water Management District
Phone: **800-662-8876**
sfwmd.gov

FOR ADDITIONAL COPIES OF THIS REPORT, CONTACT:

Water and Wastewater Operations Division
Phone: **954-831-0810**
Fax: **954-831-0842**

TO VIEW THE 2014 WATER QUALITY REPORT ONLINE, GO TO:

Broward.org/WaterServices/WaterQualityReport



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1,000 copies of this public document were promulgated at a gross cost of \$575.00 and \$0.575 per copy including postage to provide public information about Broward County's drinking water quality during 2014.

If you pay the water bill for a condominium or rental property (residential or commercial), please advise your residents/tenants that this report is available.

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WATER AND WASTEWATER SERVICES



2014
WATER QUALITY REPORT
Broward.org/WaterServices

WHAT IS IN MY WATER? - 2014 TEST RESULTS (3A and 3BC water supplied by the City of Hollywood)

MICROBIOLOGICAL CONTAMINANTS									
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	1A Highest Monthly % Positive	2A Highest Monthly % Positive	3A Highest Monthly % Positive	3BC Highest Monthly % Positive	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (treated water in the distribution system)	01/14 - 12/14	N	2.3%	3.0%	3.2%	5.0%	0.0%	> 5.0%	Naturally present in the environment
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	# Positive Samples for the Year	# Positive Samples for the Year	# Positive Samples for the Year	# Positive Samples for the Year	MCLG	MCL	Likely Source of Contamination
<i>E. coli</i> (treated water in the distribution system)	01/14 - 12/14	N	1	0	1	0	0	0	Human and animal fecal waste
On May 7, 2014, the 1A water distribution system was sampled for the fecal indicator <i>E. coli</i> . 1A management was notified on May 08, 2014 that one sample out of 85 tested, showed <i>E. coli</i> to be present. On May 09, 2014, three repeat samples were taken as required by Rule. On May 10, 2014, 1A management was notified that all three repeat samples tested were absent for <i>E. coli</i> .									
On May 06, 2014, the 3A water distribution system was sampled for the fecal indicator <i>E. coli</i> . 3A management was notified on May 08, 2014 that one sample out of 28 tested, showed <i>E. coli</i> to be present. On May 08, 2014, three repeat samples were taken as required by Rule. On May 09, 2014, 3A management was notified that all three repeat samples tested were absent for <i>E. coli</i> .									
In November 2014, the 3BC water distribution system did not collect enough follow-up samples after positive monthly coliform samples, as required for monitoring and reporting. Nine samples were required and only five were taken. The results of subsequent samples taken show the drinking water meets health standards.									
Health Effects: Fecal coliforms and <i>E. coli</i> are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.									
INORGANIC CONTAMINANTS									
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	1A	2A	3A	3BC	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	05/14-07/14	N	ND	ND	0.7	0.7	0	10	Erosion of natural deposits
Barium (ppm)	05/14-07/14	N	0.004	0.006	0.0045	0.0045	2	2	Erosion of natural deposits
Fluoride (ppm)	05/14-07/14	N	0.87	0.849	0.6	0.6	4	4	Additive to promote strong teeth when 0.7-1.3 ppm.
Nitrate (ppm)	05/14-07/14	N	0.5169	0.0436	0.073	0.073	10	10	Runoff from fertilizer use; erosion of natural deposits
Nitrite (ppm)	05/14-07/14	N	0.074	0.321	ND	ND	1	1	Runoff from fertilizer use; erosion of natural deposits
Sodium (ppm)	05/14-07/14	N	42.2	30.5	29.8	29.8	NA	160	Leaching from soil
DISINFECTANTS and DISINFECTION BY-PRODUCTS									
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	1A (range)	2A (range)	3A (range)	3BC (range)	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/14 - 12/14	N	3.6 (0.7-4.2)	3.3 (0.4-4.1)	3.5 (1.7-4.0)	3.1 (0.0-4.2)	4.0	4.0	Water additive used to control microbes
HAA5-haloacetic acids (ppb)		N	45.00 (26.2-56.7)	(6.7-37.4)	18.20 (14.5-18.2)	18.90 (14.4-18.9)	NA	60	By-product of drinking water disinfection
TTHM-total trihalomethanes(ppb)		N	61.00 (37.5-76.4)	(26.0-62.2)	25.80 (22.6-25.8)	24.10 (23.0-24.1)	NA	80	By-product of drinking water disinfection
LEAD and COPPER (Tap Water)									
Contaminant (90th Percentile Value)	Dates of Sampling (mo/yr)	AL Violation Y/N	1A	2A	3A	3BC	MCLG	Action Level (AL)	Likely Source of Contamination
Copper (Tap Water) (ppm)	08/13	N	0.06800	0.04500	0.09900	0.03700	1.3	1.3	Corrosion of household plumbing systems, erosion of natural deposits
# of Sites exceeding the AL			0	0	0	0			
Lead (Tap Water) (ppb)		N	8.48	1.89	1.79	2.45	0	15	
# of Sites exceeding the AL			0	0	0	0			
UNREGULATED CONTAMINANTS									
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	1A (range)	2A (range)	3A (range)	3BC (range)	Draft Reference Concentration (RC)	Likely Source of Contamination	
Chlorate (ppb)	02/13-08/14	NA	940 (580-1300)	1100 (1000-1200)	265 (260-270)	267.5 (160-380)	210	Agricultural defoliant; disinfection byproduct	
Chlorodifluoromethane (ppt)	02/13-08/14	NA	ND	210 (210-210)	400 (400-400)	165.0 (150-180)	Not Available	Refrigerant; solvent; fluorocarbon resins	
Chromium (ppb)	02/13-08/14	NA	0.36 (0.36-0.36)	0.36 (0.36-0.36)	0.265 (0.26-0.27)	0.28 (0.26-0.30)	100	Naturally occurring element	
Hexavalent Chromium (ppb)	02/13-08/14	NA	0.20 (0.19-0.21)	0.28 (0.27-0.29)	0.058 (0.056-0.059)	0.052 (0.034-0.066)	Not Available	Release of industrial chemicals	
Molybdenum (ppb)	02/13-08/14	NA	1.15 (1.1-1.2)	ND	ND	ND	40	Naturally occurring element	
Strontium (ppb)	02/13-08/14	NA	200 (190-210)	475 (460-490)	240 (240-240)	220 (220-220)	4000	Naturally occurring element	
Vanadium (ppb)	02/13-08/14	NA	2.2 (2.1-2.3)	1.15 (1.1-1.2)	0.57 (0.56-0.58)	0.555 (0.44-0.63)	21	Naturally occurring element	

DEFINITIONS FOR THE TABLES

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

D/DBP: Disinfectant/Disinfection By-product.

Maximum Contaminant Level or MCL: This is the highest level of contaminant that is allowed in water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or 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 or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal or 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.

ND: Means not detected and indicates that the substance was not found by laboratory analysis.

NA: Not applicable.

ppb: Parts per billion, or micrograms per liter (µg/l).

ppm: Parts per million, or milligrams per liter (mg/l).

TTHM: Total Tri-halomethanes.

How Do Contaminants Get Into Drinking Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, aquifers 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 activities.
- 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 EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Do I need to take special precautions?

All drinking water, including bottled water, is expected to contain reasonably small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. While microbial contaminants (such as virus, bacteria, *Cryptosporidium* and *Giardia*) do not pose a significant risk for utilities, such as WWS, using groundwater from the Biscayne Aquifer, this has emerged as an issue of concern and the focus of media attention for other communities, particularly those that rely on surface water.

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 about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection from *Cryptosporidium* and other microbiological contaminants are available from EPA's Safe Drinking Water Hotline at **800-426-4791**.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from materials and components associated with service lines and home plumbing. WWS 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 two 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 epa.gov/safewater/lead.