

## Dear Customers,



Broward County Water and Wastewater Services (WWS) is pleased to provide you, our customers, with its 2015 Water Quality Report. In 2015, WWS continued its 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.

Over the past year, WWS made a number of strides in its continuing efforts to provide the best quality services to its customers:

- **A New 1 Million Gallon Water Storage Tank** – This new concrete storage tank, installed at the water treatment plant located in Lauderdale Lakes, FL, replaces an obsolete 300,000 gallon steel storage tank and increases the plant's ability to provide water during periods of peak demand, including fire events.
- **New Automatic Payment and Electronic Billing Options Save Time, Money and Conserve Natural Resources** - Conserve additional resources by choosing to receive electronic bills instead of paper and sign up for Automatic Payment from your checking or savings account and your bill will always be paid on time! For additional information visit [Broward.org/WaterServices](http://Broward.org/WaterServices) or contact Customer Service at 954-831-3250.

This commitment to serving our customers was recognized by both professional regulatory authorities and our peers as we received the following prestigious awards:

- First Place for **Outstanding Water Distribution System**, awarded by the Florida Section American Water Works Association Division 6. This prestigious award is a testament to our employees' hard work, knowledge, experience and continual effort to provide the highest level of professionalism and service.
- **National Association of County Information Officers Award of Excellence** for the 2013 Water Quality Report, published and distributed in 2014.

We take a great deal of pride in the job we do and recognize that we play a vital role in maintaining the health and well-being of our customers. We remain steadfast in our commitment to always do our best to provide the highest quality of service to our customers. On behalf of Water and Wastewater Services' 400+ employees, we thank you for being our customer and for being an important partner in our continuing effort to remain one of the best utilities in the nation.

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](http://Broward.org/Waterservices)  
Phone: 954-831-3250

### EMPLOYMENT INFORMATION:

Phone: 954-357-JOBS  
[Broward.org/Careers](http://Broward.org/Careers)

### ADDITIONAL INFORMATION:

**Environmental Protection Agency  
Safe Drinking Water Hotline**  
Phone: 800-426-4791  
[epa.gov/safewater](http://epa.gov/safewater)

**National Centers for Disease Control**  
Phone: 800-232-4636  
[cdc.gov](http://cdc.gov)

**American Water Works Association**  
Phone: 800-926-7337  
[awwa.org](http://awwa.org)

**South Florida Water Management District**  
Phone: 800-662-8876  
[sfwmd.gov](http://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 2015 WATER QUALITY REPORT ONLINE,  
GO TO:**

[Broward.org/WaterServices/WaterQualityReport](http://Broward.org/WaterServices/WaterQualityReport)



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Board of County Commissioners  
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Public Hearings: 2nd and 4th Tuesdays at 2 PM  
Broward County Governmental Center  
115 S. Andrews Avenue, Room 422  
Fort Lauderdale, FL 33301

500 copies of this public document were promulgated at a gross cost of \$195.00 and \$0.390 per copy including postage to provide public information about Broward County's drinking water quality during 2015.

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.

WW201659265



# 2015 Water Quality Report

Este reporte se publica anualmente para brindar información a nuestra clientela sobre la calidad del agua potable. Si desea atención en español, puede comunicarse con el departamento de Servicio al Cliente al 954-831-3250.

## 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 2015. The report(s) indicated no unique potential contaminant sources in District 1A and no unique potential contaminant sources in District 2A. In 2015, 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](http://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, 2015. Data obtained before January 1, 2015, 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)

# WHAT IS IN MY WATER? - 2015 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)	01/15 - 12/15	N	4.7%	1.6%	4.2%	4.9%	0.0%	> 5.0%	Naturally present in the environment
INORGANIC CONTAMINANTS									
Contaminant	Dates of Sampling (mo/yr)	MCL Violation Y/N	1A	2A	3A	3BC	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	05/14-08/15	N	ND	ND	0.81	0.81	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	05/14-08/15	N	0.004	0.006	0.0033	0.0033	2	2	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Fluoride (ppm)	05/14-08/15	N	0.87	0.849	0.48	0.48	4	4	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 (ppm)	05/14-08/15	N	0.284	0.417 (ND-0.417)	0.064	0.064	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (ppm)	05/14-11/15	N	ND	0.442 (ND-0.884)	ND	ND	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	05/14-08/15	N	42.2	30.5	28.9	28.9	NA	160	Salt water intrusion, 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)	01/15 - 12/15	N	3.1 (0.4-4.1)	3.4 (0.5-4.1)	3.6 (1.1-4.1)	3.1 (0.9-4.0)	4.0	4.0	Water additive used to control microbes
HAA5-haloacetic acids (ppb)		N	43.63 (12.8-68.1)	15.05 (ND-24.4)	7.02 (5.64-7.02)	12.3 (7.22-12.3)	NA	60	By-product of drinking water disinfection
TTHM-total trihalomethanes(ppb)		N	58.77 (34.2-71.5)	14.08 (8.73-18.5)	5.45 (4.57-5.45)	13.8 (10.6-13.8)	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; leaching from wood preservatives
# of Sites exceeding the AL			0	0	0	0			
Lead (Tap Water) (ppb)		N	8.48	1.89	1.79	2.45	0	15	Corrosion of household plumbing systems
# 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)	01/15-02/15	NA	NA	325 (320-330)	230 (230-230)	NA	210	Agricultural defoliant; disinfection by-product	
Chlorodifluoromethane (ppt)	01/15-02/15	NA	NA	110 (110-110)	170 (170-170)	NA	Not Available	Refrigerant; solvent; fluorocarbon resins	
Chromium (ppb)	01/15-02/15	NA	NA	0.43 (0.42-0.43)	0.235 (0.23-0.24)	NA	100	Naturally occurring element	
Hexavalent Chromium (ppb)	01/15-02/15	NA	NA	0.18 (0.16-0.19)	0.053 (0.0560-0.056)	NA	Not Available	Release of industrial chemicals	
Molybdenum (ppb)	01/15-02/15	NA	NA	ND	ND	NA	40	Naturally occurring element	
Strontium (ppb)	01/15-02/15	NA	NA	410 (400-420)	225 (220-230)	NA	4000	Naturally occurring element	
Vanadium (ppb)	01/15-02/15	NA	NA	0.87 (0.85-0.88)	0.435 (0.43-0.44)	NA	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.

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

## 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:

- (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 activities.
- (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.

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. 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**.

### 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](http://epa.gov/safewater/lead).