

# WaterQualityREPORT 2010



7:01:2011



Contact Us



Director's Message



Important Numbers



Water Source



SWAPP



Quality Control



Lead



Wellhead Protection



2010 WQR Report



Contaminants



Conservation



Water Cycle



CITY OF North Miami Beach

# WaterQualityREPORT2010



7:01:2011



## Contact Us

For technical questions about this report, call the water quality manager at **(305) 650-0000**. For general questions, call the public information officer at **(305) 919-3756**. To learn more about the Public Services Department, visit us on the web at:

### Comuníquese

Esta publicación contiene información importante sobre el agua que usted bebe diariamente. Si no lo entiende, busque a alguien que se lo traduzca o le explique su contenido. Para más información, llame al **(305) 919-3756** o visite nuestra página electrónica:

### Kontaktè nou

Rapò sa gen enfòmasyon enpòtan sou dlo ke ou bwè. Si ou pa konprann li fè yon moun ki konprann li tradwil pou ou osnon esplike ou li. Pou plis enfòmasyon, rele nimewo sa a **(305) 919-3756** osnon vizite nou nan Intenet adrès sa a:

**[www.nmbworks.com](http://www.nmbworks.com)**

#### **Condominium and Apartment Managers**

This Water Quality Report has been mailed to billed water customers in the North Miami Beach Water Utility service area. We encourage you to share this report with members of your household, condominium or apartment. Additional copies of this report are available by calling the City of North Miami Beach Public Services Department at (305) 919-3756.

This document was designed and produced in-house by the City of North Miami Beach Public Services Department at a cost of 14 cents each.

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CITY OF **North Miami Beach**

# WaterQualityREPORT 2010



7:01:2011



## Director's Message

We are pleased to present the 2010 annual water quality report and to announce that your water meets and/or exceeds all state and federal regulatory requirements. This year's smart phone theme is intended to dial up your interest in learning more about the quality water and services that we deliver. The water quality information in this report is the result of system-wide monitoring between January 1 through December 31, 2010.



The City of North Miami Beach owns and operates the Norwood Water Treatment Plant, which processes ground water from both the Biscayne and Floridan aquifers. A series of 20 production wells ranging in depth from approximately 45 to 1,250 feet extract up to 25 million gallons per day. This water is then passed through one of three treatment processes, lime softening, nanofiltration, or reverse osmosis. Once the water is treated, it then travels through our distribution system to your home or business.

Please consider this report a tool – or for smart phone users, an app – to learn more about the water we use on a daily basis. Most importantly, this report shows our water quality results and what they mean.

The City of North Miami Beach continues to be committed to providing you with the safest and highest-quality tap water available. You can do your part by helping us protect our water sources, which are the heart of our community, our way of life, and our children's future.

*Sincerely,*

Shari Kamali, *Public Services Director*



CITY OF North Miami Beach

# WaterQualityREPORT2010



7:01:2011



## Important Numbers

It is important to us that you are able to access the services you need most. We have provided a list of helpful contact numbers for each of our major services. Please feel free to call us with any questions you may have regarding the services we provide.

**After Hours/Emergency** (305) 652-6460

**Public Services Department** (305) 948-2967

**Call Before You Dig** 811

**Community Relations** (305) 957-3657

**Construction Projects** (305) 919-3756

**Customer Service** (305) 948-2960

**Distribution** (305) 948-2936

**Engineering** (305) 948-2980

**Meters & Backflow** (305) 948-2936

**Norwood Water Treatment Plant** (305) 650-0000

**Public Information** (305) 919-3756

**Public Utilities Commission (PUC)** (305) 948-2983

The PUC has an advisory role for the city's mayor and council. PUC meetings are normally held the second Wednesday of each month at the North Miami Beach City Hall, 17011 NE 19th Avenue, second floor Council Chambers, at 6 p.m.

**EPA Safe Drinking Water Hotline** 1-800-426-4791

**Water Quality Control** (305) 654-7137

**Wastewater Management Facility** (305) 624-1177

**Water Conservation** (305) 957-3509



CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## Water Source

Our water sources are the Biscayne Aquifer and the Floridan Aquifer. The Biscayne Aquifer is located approximately 10 to 200 feet below ground and is composed of porous limestone rock, which contains many tiny cracks and holes. This aquifer is replenished when the rain percolates down through the ground.

The South Florida Water Management District has issued a permit that allows the North Miami Beach Water Utility to withdraw 26.31 million gallons per day (MGD) of water from the Biscayne Aquifer. Water from the Biscayne Aquifer is treated by lime softening or nanofiltration processes.

In contrast, our second source of water is the Floridan Aquifer, a deep aquifer located approximately 1,250 feet below ground. The permit allows us to withdraw up to 12 MGD of water from the Norwood wellfields. Water from the Floridan Aquifer is brackish and is processed with reverse osmosis, a membrane treatment process that is capable of removing high concentrations of salt and other contaminants from the water.

## Source Water Assessment and Protection Program



**SWAPP** - In 2009 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 six (6) potential sources of contamination identified for this system with low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at [http://www.dep.state.fl.us/swapp/DisplayPWS.asp?pws\\_id=4131618](http://www.dep.state.fl.us/swapp/DisplayPWS.asp?pws_id=4131618) or they can be obtained from the Public Information Officer at (305) 919-3756.



CITY OF North Miami Beach

# WaterQualityREPORT2010



7:01:2011



## Quality Control

North Miami Beach's water quality control division oversees the laboratory that conducts a multitude of tests that ensure the production and distribution of safe drinking water. The laboratory is state-certified in microbiology and is staffed by qualified professionals.

Annually, more than 184,000 tests are performed on North Miami Beach tap water. Constant testing ensures that the water delivered to our customers is of the highest quality possible. Monthly, samples are taken from 138 different locations throughout the water service area and tested for bacteria, chlorine, cloudiness and iron. North Miami Beach performed tests on 237 substances in 2010. Of the 237 substances the city is required to monitor, only 10 were detected in our water. The results are listed on the chart in this report. These results



are still significantly below regulatory standards set by the United States Environmental Protection Agency (EPA) and the State of Florida. The city reports the results to the Florida Department of Health and the Florida Department of Environmental Protection.

## Outstanding Class A Water Treatment Plant

The Norwood Water Treatment Plant has been honored with the 2010 Outstanding Class A Water Treatment Plant award from the Florida Section American Water Works Association. This award signifies our facility has exceptionally high standards in water treatment plant maintenance, water quality, record keeping, operations, safety, professionalism, emergency preparedness and public relations.

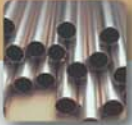


CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## 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 City of North Miami Beach 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. 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 **National Lead Information Center** hotline at **1-800-424-LEAD (5323)** or at <http://www.epa.gov/safewater/lead>.



## Wellhead Protection

North Miami Beach monitors the wellfields for possible pollution. The city has 31 monitoring wells installed around the water treatment plant and water supply wells. They serve as an early warning system by alerting professionals of any potential harmful contamination that might be present in the water.



## Cross Connection Control Program

The Florida Department of Environmental Protection requires that all municipalities with water systems develop and maintain routine backflow-prevention and cross-connection control programs. The City of North Miami Beach has a program in place, and these backflow-prevention devices are inspected annually.



CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## Contaminants

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:

- (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.
- (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 that limit the amount of certain contaminants in water provided by public water systems. .



CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## Contaminants

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**.

### Some Individuals May Be More Susceptible to Contaminants

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 lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline **1-800-426-4791**.

Safe Drinking Water Hotline

**1-800-426-4791**



CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## Conservation

The Public Services Department promotes water conservation awareness and education of water issues through its community outreach and education initiatives. The department's Water Education Team consists of professionals specializing in neighborhood relations, public information and water conservation.

Water education presentations are available, free of charge, for any school, civic, church or neighborhood group in the utility water service area. Presentation topics include practical ways to save water and lower water bills, water quality and treatment, current outdoor water irrigation restrictions, and water resource topics.

## Education

The Public Services Department promotes conservation awareness and education of water issues through its community outreach program. To schedule a speaker or presentation, please call **(305) 919-3756**.

## Showerhead Exchange

You can exchange your old water-wasting showerhead from your home and trade it in for a new, high-efficiency showerhead free of charge. Simply bring in your old showerhead to the Public Services Administration building, 17050 NE 19th Avenue, and we'll replace it with a new water-saving showerhead. Please call **(305) 957-3509** for additional information.



CITY OF North Miami Beach

# WaterQualityREPORT 2010



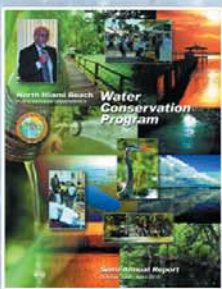
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## Conservation

### Tips to Help You Save Water and Money

- Take shorter showers.
- Run your clothes washer and dishwasher only when they are full.
- Use a broom instead of a hose to clean your driveway and sidewalk.
- Upgrade older toilets with water-efficient models.
- A taller lawn shades roots and holds soil moisture better than if it is closely clipped.
- Collect water from your roof to water your garden.
- Turn off faucets tightly after each use.
- Turn off the water while brushing your teeth, shaving or washing your hands.
- If your toilet flapper doesn't close after flushing, replace it.
- Wash your car on the lawn, and you'll be watering your lawn at the same time.
- Use a hose nozzle or turn off the water while washing your car.
- For cold drinks keep a pitcher of water in the refrigerator instead of running the tap until it gets cold.
- Check outdoor faucets, sprinklers and hoses for leaks.
- Don't use running water to thaw food.
- Turn off the water while you wash your hair.
- Wash your pets outdoors in an area of your lawn that needs water.



### Conservation - Best in Class Award

#### Semiannual Water Conservation Report

The utility's Semiannual Water Conservation Report earned the Best in Class award for water conservation by the Florida Section American Water Works Association for 2010.



CITY OF North Miami Beach

# WaterQualityREPORT 2010



7:01:2011



## Water Cycle

The water we use recycles itself over and over again through a process known as the water cycle. This cycle consists of four stages:

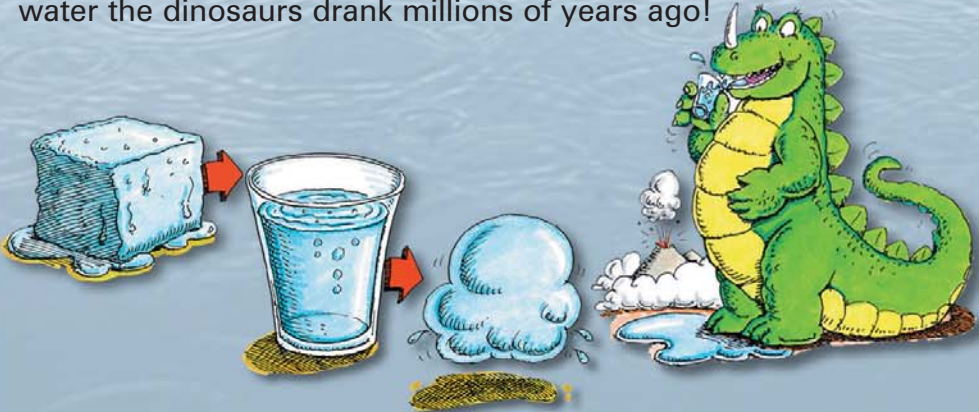
### **Evaporation, Condensation, Precipitation, and Runoff.**

Evaporation occurs when the sun heats up water in the oceans, rivers, and lakes and creates vapor or steam. The water vapor or steam leaves the river, lake, or ocean and goes into the air. Plants also put water vapor back into the air through their leaves, this is a process called transpiration.

Condensation occurs when water vapor in the air gets cold; it then changes back into a liquid form, creating clouds.

Precipitation occurs when so much water has condensed that the air cannot hold it anymore. The clouds get heavy and water falls back to the earth in the form of rain, hail, sleet, or snow.

Runoff occurs after water falls back to earth. The water is collected and temporarily stored in the ground, ice caps, glaciers, lakes, rivers, and oceans. From here it starts the entire water cycle over again and this is why we can say the water we drink is the same water the dinosaurs drank millions of years ago!



CITY OF North Miami Beach

# WaterQualityREPORT 2010

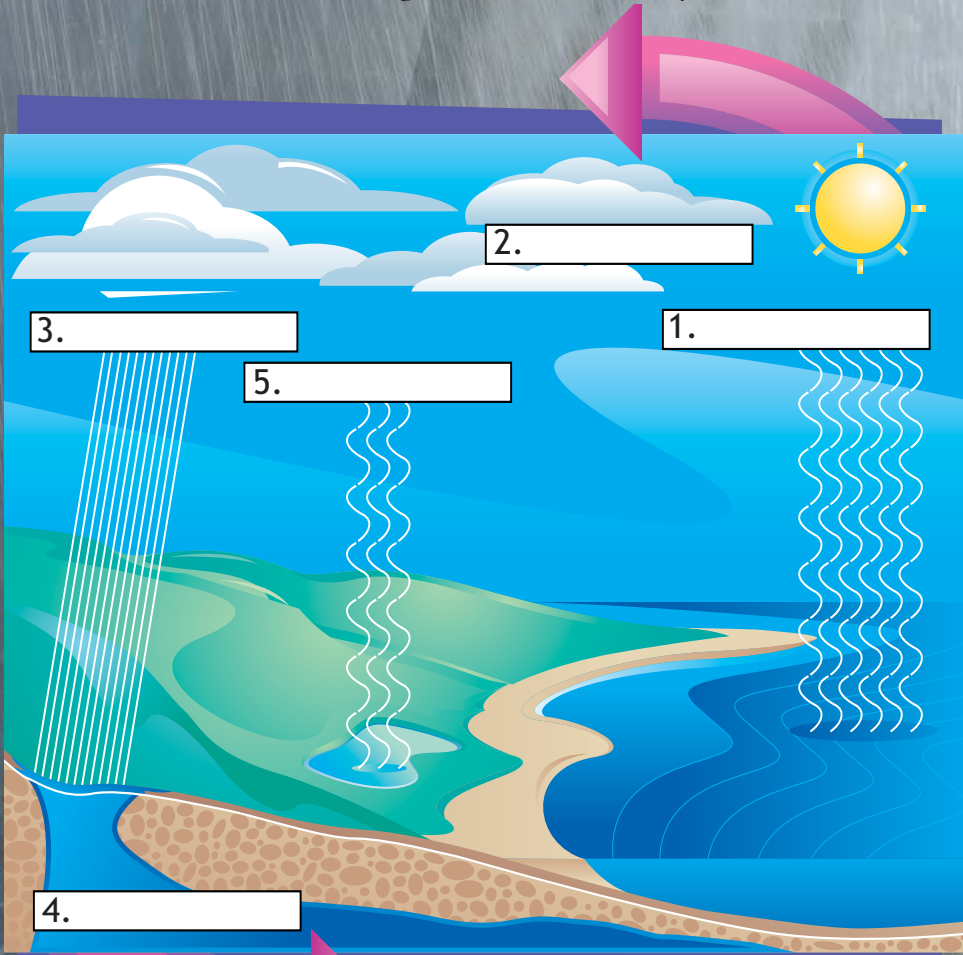


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## Games

**WATER CYCLE GAME:**  
Fill in the blanks below  
after reading about the water cycle.



Answers: 1. Evaporation, 2. Condensation, 3. Precipitation, 4. Runoff, 5. Evaporation



CITY OF North Miami Beach



# WaterQualityREPORT 2010

PARAMETER	MCL Violation	Federal Goal MCLG	Federal/State MCL	North Miami Beach's Norwood-Oeffler Plant (a)	Year Tested	Major Sources
<b>Inorganic Contaminants</b>						
Copper (tap water) (ppm) ( b )	N	1.3	AL=1.3	0.08 (0 homes out of 113 exceeded the AL)	2010	Corrosion of household plumbing systems, erosion of natural deposits
Fluoride (ppm)	N	4	4	0.99 (0.66 - 0.99)	2010	Erosion of natural deposits, water additive to promote strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead (tap water) (ppb) ( b )	N	0	AL=15	3 (5 homes out of 113 exceeded the AL)	2010	Corrosion of household plumbing systems, erosion of natural deposits
Nickel (ppb)	N	NE	100	0.14	2010	Natural occurrence in soil
Nitrate (ppm)	N	10	10	0.08	2010	Erosion of natural deposits, runoff from fertilizer use
Sodium (ppm)	N	NE	160	41	2010	Saltwater intrusion, leaching from soil
<b>Stage I Disinfectants and Disinfection By-products</b>						
	MCL or MRDL Violation	MCLG or MRDLG	MCL or MRDL			
Haloacetic Acids (HAA <sub>5</sub> ) (ppb)	N	NE	60	8.5 (3.5 - 14.8) (c)	2010	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	N	NE	80	15.2 (13.8 - 18.9) (c)	2010	By-product of drinking water disinfection
Chloramine (ppm)	N	4	4	2.4 (0.6 - 4.0)	2010	Water additive used to control microbes
<b>Radioactive Contaminants</b>						
Combined Radium (pCi/L)	N	0	5	1.04 (0-1.04)	2010	Erosion of natural deposits

## LEGEND

- (a) The lowest and highest values measured during the year are in parentheses. The number outside the parentheses is the highest detected level reported for the monitoring period, except for Disinfection By-products and Disinfection Residuals, where the running annual average is reported.
- (b) 90th percentile value reported. If the 90th percentile value does not exceed the AL (less than 10% of the homes have levels above the AL), the system is in compliance and uses the prescribed corrosion control measures.
- (c) A total of 2 samples per quarter were collected under the Stage 1 D/DBP Rule for total Trihalomethanes and Haloacetic Acids 5 from the North Miami Beach distribution system. Compliance is based on running annual average, computed quarterly, of quarterly averages of all samples collected in the system.

## DEFINITIONS

- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- Disinfection:** In treating water, it is the process by which water is exposed to a chemical for a specified time period to kill pathogenic organisms.
- Disinfection By-product:** A chemical produced by the disinfection process. Disinfection by-products are regulated and are indicators of potential carcinogenic substances.
- Maximum Contaminant Level (MCL):** 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.
- Maximum Contaminant Level Goal (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 (MRDL):** 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.
- Maximum Residual Disinfectant Level Goal (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.
- Not Established (NE):** Indicates the federal agency has not established a MCLG or MRDLG for that contaminant.
- Picocurie per liter (pCi/L):** Measure of the radioactivity in water.
- 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.



City of North Miami Beach  
**Public Services Department**

17050 NE 19th Avenue  
North Miami Beach, FL 33162

**(305) 948-2967**

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