2012 Annual Water Quality Report

We are pleased to report that our drinking water surpasses state and federal drinking water standards

Community at Work

Water plays an integral part in our everyday lives. The City of Boca Raton Utility Services Department continues to remain in the forefront of new and emerging water treatment technology as well as alternative water supply technologies in support of water conservation. Water conservation is the most cost-effective and environmentally sound way to reduce our demand for water. To promote environmental stewardship and public awareness, the Utility Services Department offers public outreach and education programs. These programs are offered to local schools, homeowners associations, civic groups, and through other venues. Some of the programs include tours of the Water Treatment Facility, Water Conservation programs, Water Pollution programs, and Water Quality programs including the use of our EnviroScape® Coastal Ecosystem model. For more information about our programs or to schedule a tour, please call 561-338-7306.

Also, we encourage public interest and participation in decisions affecting our community's drinking water. Regular City Council meetings usually occur on the second and fourth Tuesdays of each month at 6:00pm at City Hall. City Hall is located at 201 West Palmetto Park Road. For information on meeting schedules and agendas contact 561-393-7740 or visit the City's website at www.myboca.us.

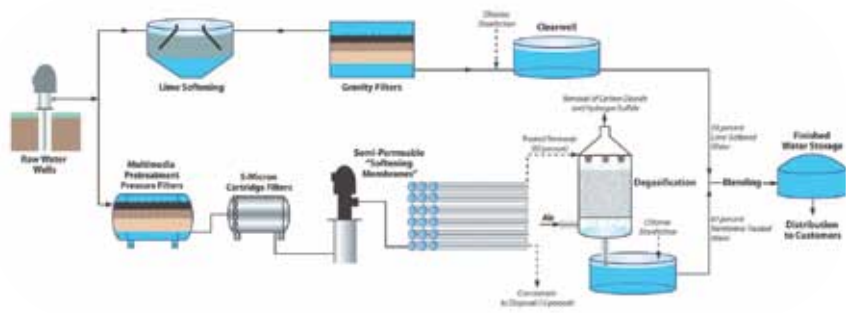
Sitting left to right: CRA Chairman and City Council Member Constance Scott, Mayor Susan Whelchel, and Deputy Mayor Susan Haynie. Standing left to right: Council Member Anthony Majhess and Council Member Michael Mullaugh

Your Drinking Water Process

Once the water is pumped from our wells to our Glades Road facility, the City of Boca Raton uses two types of water treatment processes.

Traditional Lime Softening: involves the use of calcium oxide and other chemicals to remove minerals and particles. The water is then filtered to remove smaller impurities and then disinfected with a chlorine compound to destroy bacteria and other microorganisms.

State-of-the-Art Membrane Softening: involves pumping the water through multimedia pretreatment pressure filters, 5-micron cartridge filters, and finally semi-permeable membranes. Next, hydrogen sulfide and carbon dioxide are removed using a degasifying technology. The membrane softened water is also disinfected with a chlorine compound and blended with the lime softened water. The combined processes produce high quality water that is pumped through the distribution system to our customers.



Your Drinking Water Source... THE BISCAYNE AQUIFER

The Biscayne aquifer is the primary source of drinking water for over six million people in South Florida and is the source of the drinking water for the City of Boca Raton. The City of Boca Raton's 50 raw water wells pump water from the Biscayne aquifer to our water treatment facility located on Glades Road by the I-95 interchange.

Source Water Assessments

In 2011, the Florida Department of Environmental Protection (DEP) performed a Source Water Assessment on the City's wellfield system in order to ensure our source water is protected. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of the City's wells. Potential sources of contamination are those facilities, sites, and activities that have the potential to affect the underlying ground water aquifers or nearby surface waters used for public drinking water supply. Many of these potential sources are regulated by DEP and the location and status of these sites are maintained within DEP databases. By utilizing in-house databases and a geographical information system (GIS), DEP can access and illustrate the relationships of potential contaminant sources to the approximately 12,000 public water supply intakes in Florida.

It should be noted that the potential sources of contamination identified by this assessment project are just that; potential sources. Many of these facilities are regulated and operate under stringent construction and maintenance requirements designed to protect both human health and the environment. The purpose of conducting the source water assessments is to provide information that will lead to actions to reduce current risks or avoid future problems.

The DEP has identified twenty-four potential sources of contamination for the City's wellfield system with a moderate susceptibility level and ten potential sources of contamination with a low susceptibility level. The assessment results and more information is available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp or can be obtained by calling the Utility Services Department at 561-338-7310.

Immuno-Compromised Person

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 microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791 or by visiting the Environmental Protection Agency's Safe Drinking Water website at www.epa.gov/safewater.

An Explanation of the **Water Quality Data Table**

The City of Boca Raton Utility Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. The table on the next page shows the results of our water quality analysis. Except when indicated otherwise, this report is based on the results of our monitoring for the period of January 1, 2012 to December 31, 2012. Data obtained before January 1, 2012 and presented in this report are from the most recent testing done in accordance with laws, rules, and regulations. The table contains: the name of each substance; the maximum contaminant level (MCL) or the highest level allowed by regulation; the ideal goals for pubic health; the amount detected; the usual sources of such contamination; footnotes that explain our findings; and a key to units of measurement. The MCLs are set at very stringent levels.

Data Table Key, Definitions, and Abbreviations

"When the well's dry, we know the worth of water."

- Benjamin Franklin, (1706-1790), Poor Richard's Almanac.

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

Maximum Contaminant Level or 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 or MCLG:
The level of 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 indrinking water. There is convincing evidence that 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 (ug/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.

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

Not Applicable (N/A): Does not apply

2012 Water Quality Table

Contaminant	Unit of Measurement	Test Date	AL Exceeded Yes/No	90th Percentile	Sites Exceeding the AL	MCLG	AL	Likely Source of Contamination
Lead and Copper (Tap Water)[3]								
Copper	ppm	7/11	No	0.123	0	1.3	1.3	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservative.
Lead	ppb	7/11	No	2.39	1	0	15	Corrosion of household plumbing; erosion of natural deposits.
Contaminant	**Unit of Measurement**	**Test Date**	**MCL Violation Yes/No**	**Level Detected**	**Range**	**MCLG**	**MCL**	**Likely Source of Contamination**
Inorganic Contaminants								
Fluoride[3]	ppm	2/11	No	0.11	N/A	4.0	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Sodium[3]	ppm	2/11	No	29.3	N/A	N/A	160	Saltwater intrusion; leaching from soil
Nitrate (as Nitrogen)	ppm	2/12	No	0.11	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Contaminant	**Unit of Measurement**	**Test Date**	**MCL / MRDL /TT Violation Yes/No**	**Highest Monthly Percentage**		**MCLG/ MRDLG**	**MCL/ MRDL**	**Likely Source of Contamination**
Microbiological Contaminants								
Total Coliform Bacteria	N/A	10/12	No	3.7%		0	5%	Naturally present in the environment
Fecal indicators4 (E. coli)[4] SOURCE WATER SAMPLE ONLY		8/02/12	TT-No	Positive (E. Coli)		N/A	N/A	Human and animal fecal waste
Contaminant	**Unit of Measurement**	**Test Date**	**MCL / MRDL Violation Yes/No**	**Level Detected**	**Range**	**MCLG/ MRDLG**	**MCL/ MRDL**	**Likely Source of Contamination**
Stage 1 Disinfectants and Disinfection By-Products								
Total Trihalomethantes (TTHM)	ppm	02/2012	No	0.0701	N/A	N/A	0.080	By-product of drinking water disinfection
Haloacetic Acid (five)	ppm	02/2012	No	0.0411	N/A	N/A	0.060	By-product of drinking water disinfection
Stage 2 Disinfectants and Disinfection By-Products								
Chloramines[1]	ppm	2012	No	2.46	1.56 - 2.68	4.0	4.0	By-product of drinking water disinfection

Contaminant	Unit of Measurement	Test Date	June 2012	Sept. 2012	Dec. 2012	Operational Evaluation	AL Exceeded Yes/No	Sites Exceeding the AL	MCLG	AL	Likely Source of Contamination
		Location	A	B	C	Value D= (A+B+2*C)/4					
Total Trihalomethantes (TTHM)[2]	ppm	Site #1	0.0538	0.0521	0.0373	0.0451	No	N/A	N/A	0.080	By-product of drinking water disinfection
		Site #2	0.635	0.0515	0.0362	0.0468	No	N/A	N/A	0.080	
		Site #3	0.0609	0.0489	0.0399	0.0474	No	N/A	N/A	0.080	
		Site #4	0.0642	0.0519	0.0221	0.0401	No	N/A	N/A	0.080	
		Site #5	0.0641	0.0405	0.0380	0.0452	No	N/A	N/A	0.080	
		Site #6	0.0591	0.0492	0.0756	0.0649	No	N/A	N/A	0.080	
Haloacetic Acid (five) (HAA5)[2]	ppm	Site #1	0.0211	0.0238	0.0183	0.0204	No	N/A	N/A	0.060	By-product of drinking water disinfection
		Site #2	0.0283	0.0267	0.0205	0.0240	No	N/A	N/A	0.060	
		Site #3	0.0237	0.0262	0.0211	0.0230	No	N/A	N/A	0.060	
		Site #4	0.0263	0.0254	0.0214	0.0236	No	N/A	N/A	0.600	
		Site #5	0.0264	0.0262	0.0219	0.0241	No	N/A	N/A	0.060	
		Site #6	0.0237	0.0272	0.0317	0.0286	No	N/A	N/A	0.060	

1. Running Annual Average 2. O.E.V. Operational Evaluation Level 3. As authorized by the EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentration of these contaminants are not expected to vary significantly from year to year. Some of our data, though representative, is more than one year old. 4. The City of Boca Raton Utility Services detected E. coli in a source water sample; the sample was collected in response to a total coliform-positive routine sample collected on August 2, 2012. More information about this situation is provided below.

On August 2, 2012, the City of Boca Raton Utility Services Department which serves the City of Boca Raton and portions of Unincorporated Palm Beach County detected fecal indicators (E. Coli) in one sample taken from one of the 25 water supply wells in operation at the time. This well was immediately removed from service. The water from the wells is treated in the City's state-of-the-art membrane softening water treatment facility, which uses multiple treatment processes, including membrane filtration and chemical disinfection to effectively remove bacteria. The water samples at the water treatment facility all tested free from coliform bacteria. **There was no health risk associated with this test result and no boil water notice was issued.**

Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health 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.

In response, we sent notices to all of our customers within 24 hours of learning of this positive sample. To ensure your water supply remained safe, the City:

- Kept the water supply well out of service until the cause of the problem can be determined and corrected;
- Conducted additional water supply well sampling;
- Conducted additional drinking water sampling from the distribution system;
- Conducts required daily process sampling at the water treatment plant; and
- Maintains compliance with the requirements of drinking water regulations.

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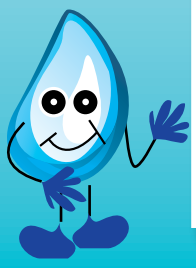
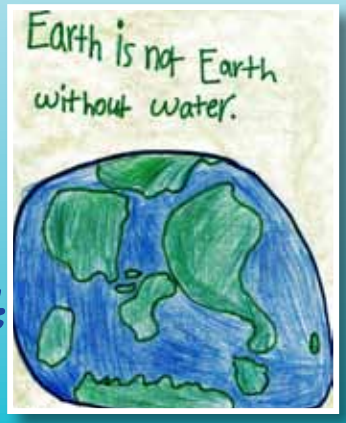
Customer Services/Billing: (561) 393-7750 | General Inquiries: (561) 338-7300

Water and Sewer Emergencies: Monday through Friday 8:00am to 5:00pm: (561) 338-7339 All other times or holidays: (561) 338-7325

Drop Savers

The Utility Services Department held a Drop Savers Water Conservation Poster Contest in which over 800 children, grades K - 5, from seven local schools participated. The children designed amazing water conservation themed posters. The three winning posters were selected for entry in the Florida Section of the American Water Works Association's statewide poster contest. These children were awarded gift cards and certificates by Mayor Susan Whelchel during the April 23, 2013 City Council meeting in conjunction with the Mayor's proclamation of April 2013 as Water Conservation Month, May 5th - 11th as Drinking Water Week, and May 19th – 25th as Water Reuse Week. We are pleased to announce that our Division 2 state entrant Sophia Simoes from Pine Crest School was chosen as the first place winner in the statewide competition! Congratulations to Sophia and the other statewide entrants!! The statewide entrants were:





K-1 Entrant: Reed Greyserman
Pine Crest School

2-3 Entrant and First Place
State Winner: Sophia Somoes
Pine Crest School

4 -5 Entrant: Emilie Kurdziel
St. Joan of Arc School

Potential Contaminants in 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 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.
- **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 (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.

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 Boca Raton Utility Services Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

When the water in your pipes 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 http://www.epa.gov/safewater/lead.