

WATER AND WASTEWATER SERVICES

2555 West Copans Road,
Pompano Beach, FL 33069

www.broward.org/waterservices

GENERAL INFORMATION:

Customer Service

Phone: **954-831-3250**

PROJECT INFORMATION:

Project & Community Coordination

Phone: **954-831-0706**

Water and Wastewater Engineering Division

Phone: **954-831-0745**

WATER CONSERVATION

www.broward.org/watermatters

EMPLOYMENT INFORMATION:

Phone: **954-357-JOBS**

www.broward.org/careers

ADDITIONAL INFORMATION:

Environmental Protection Agency

Safe Drinking Water Hotline

Phone: **800-426-4791**

www.epa.gov/safewater

National Center for Disease Control

Phone: **800-232-4636**

www.cdc.gov

American Water Works Association

Phone: **303-794-7711**

www.awwa.org

South Florida Water Management District (SFWMD)

Phone: **800-662-8876**

www.sfwmd.gov

FOR ADDITIONAL COPIES OF THIS REPORT, CONTACT:

Water and Wastewater Operations Division

Phone: **954-831-0810**

Fax: **954-831-0842**

AGENCY PROFILE

Utility: Broward County Water and Wastewater Services

Aliases: Broward County Utilities Division,
Office of Environmental Services

Created: January 31, 1962

Governed by: Broward County Board of County Commissioners

Funding: Enterprise-Funded Agency – functions and operations are not property tax-supported; rather, WWS is funded entirely by rates, fees and charges paid by users/customers.

Services: Provides retail water to approximately 230,000 Broward County residents. Provides wastewater collection services to about 600,000 residents.

Facilities: Administration, Pompano Beach, FL
Water Treatment Plant 1A, Lauderdale Lakes, FL
Water Treatment Plant 2A, Pompano Beach, FL
North Regional Wastewater Treatment Plant,
Pompano Beach, FL

Employees: 400+ employees

Awards: ASCE "Project of the Year" (Wiles Road Project) (2009); NACIO Awards of Excellence for Water Quality Report (2009, 2008, 2007, 2005, 2004); NACWA Public Service Award (2006); AMWA "Platinum Award for Sustained Competitiveness Achievement" (2005); AMSA "Gold Award for Competitiveness Achievement" (2001)

Accomplishments: Over a half-century of providing safe and clean water to our Broward County customers; bond rating upgraded in 2009; completed a new Emergency Command Center to ensure the continuation of operations to our customers in the event of a natural disaster; enjoys 80 percent customer satisfaction rating.

Mission Statement: WWS is committed to being a benchmark comprehensive utility providing exceptional retail and regional water and wastewater management services and programs to its customers; supporting continuous improvement while maintaining the quality of life in Broward County through sound environmental practices.



BOARD OF COUNTY COMMISSIONERS

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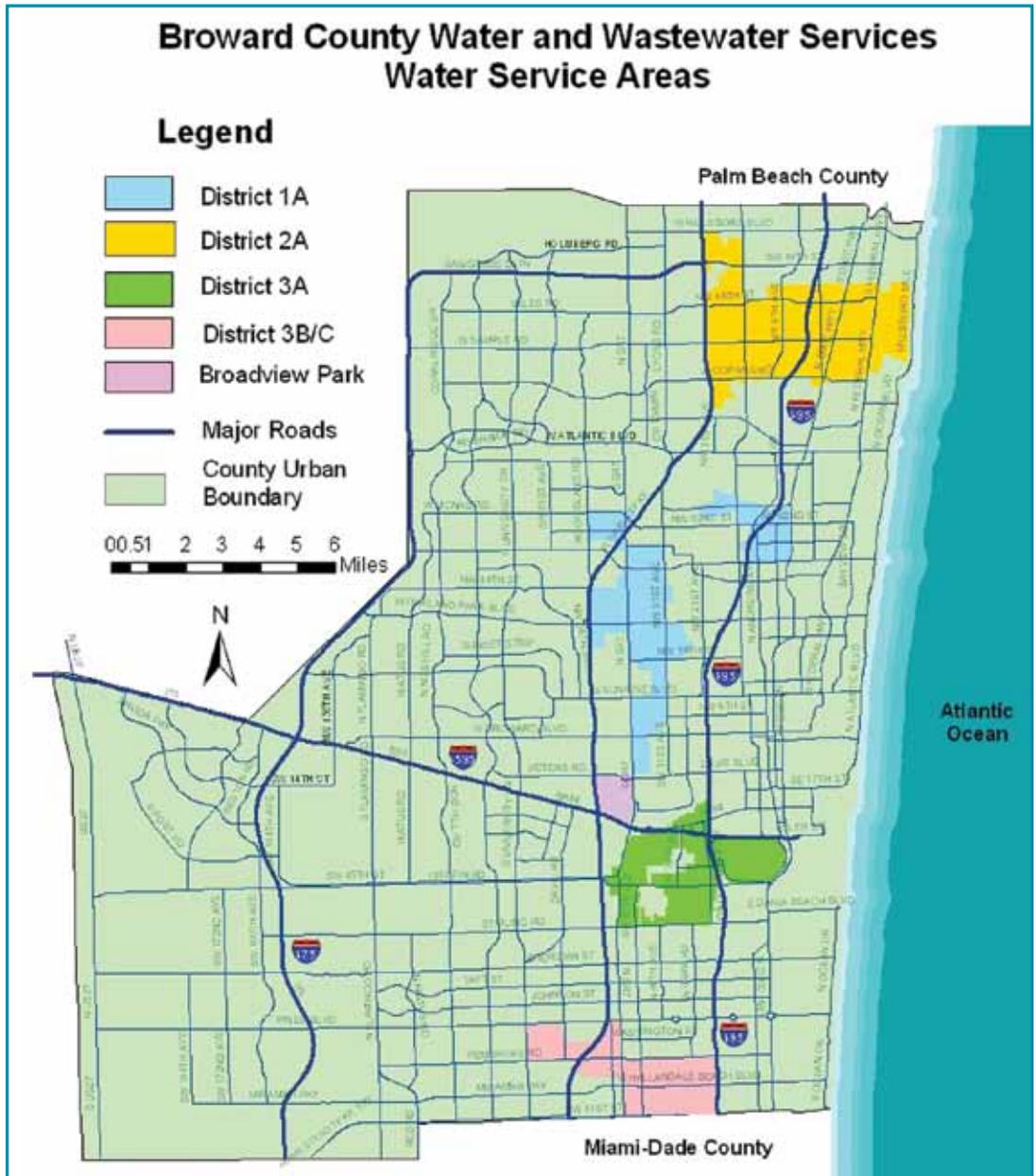
An equal opportunity employer and provider of services.

This public document was promulgated at a cost of \$17,960.00, or \$0.372 cents per copy, including postage to provide public information about Broward County's drinking water quality during 2010. 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. WW201145210 2/11

Is Your Tap Water Safe?



A review of the following WWS 2010 water quality data shows that your drinking water quality meets all primary standards set by the United States Environmental Protection Agency (EPA). The following tables list the parameters set by the Safe Drinking Water Act and the levels detected in potable water for Districts 1A, 2A, 3A, 3B/C and Broadview Park (BVP). This report includes the results of our monitoring for the period of January 1 to December 31, 2010. Data obtained before January 1, 2010, and presented in this report are from the most recent testing done in accordance with drinking water laws, rules, and regulations.





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.

BVP: Broadview Park water service area

D/DBP: Disinfectant/Disinfectant 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.

N/A: Not applicable.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

ppb: Parts per billion, or micrograms per liter ($\mu\text{g}/\text{l}$).

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

TTHM: Total Tri-halomethanes.

2010 TEST RESULTS

3A + 3BC water supplied by the City of Hollywood; BVP water supplied by the City of Plantation

2010 TEST RESULTS 3A & 3BC water supplied by the City of Hollywood; BVP water supplied by the City of Plantation										
MICROBIOLOGICAL CONTAMINANTS										
Contaminant	Date of Sampling (mo/yr)	MCL Violation Y/N	1A Highest Monthly % Positive	2A Highest Monthly % Positive	3A Highest Monthly # Positive	3BC Highest Monthly % Positive	BVP Highest Monthly # Positive	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	01/10 - 12/10	N	1.4%	1.6%	NA	0.0%	NA	0.0%	> 5%	Naturally present in the environment
		N	NA	NA	1	NA	1	0	> 1	
Contaminant		MCL Violation Y/N	# Positive Samples for the Year	MCLG	MCL	Likely Source of Contamination				
E. coli (at the groundwater source)*		N	0	1	0	0	0	0	0	Human and animal fecal waste
*On September 23, 2010, the 2A source Well PW7 was sampled for the fecal indicator E. coli. 2A was notified on December 24, 2010 that Well PW7 tested positive for E. coli. On September 27, 2010 through October 01, 2010, six additional samples were taken; subsequently the PW7 was taken out of service. On September 28, 2010 through October 01, 2010, 2A was notified that all additional samples tested were absent for E. coli.										
Health Effects: Fecal coliforms and E. coli 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.										

2010 TEST RESULTS 3A & 3BC water supplied by the City of Hollywood; BVP water supplied by the City of Plantation (Continued)

INORGANIC CONTAMINANTS

Contaminant	Date of Sampling (mo/yr)	MCL Violation Y/N	1A	2A	3A	3BC	BVP	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	01/10 - 12/10	N	ND	ND	1.1	1.1	ND	0	10	Erosion of natural deposits
Barium (ppm)		N	0.003	0.006	ND	ND	0.003	2	2	Erosion of natural deposits
Chromium (ppb)		N	4	8	ND	ND	0.6	100	100	Erosion of natural deposits
Cyanide (ppb)		N	3.2	15	ND	ND	1.6	200	200	Discharge from plastic & fertilizer factories
Fluoride (ppm)		N	0.865	0.908	0.954	0.954	0.918	4	4	Additive to promote strong teeth when 0.7-1.2 ppm.
Nickel (ppb)		N	ND	ND	ND	ND	0.4	NA	100	Pollution from mining & refining operations; natural occurrence in soil
Nitrate (ppm)		N	0.094	0.376	0.059	0.059	0.046	10	10	Runoff from fertilizer use; erosion of natural deposits
Selenium (ppb)		N	ND	ND	ND	ND	1.78	50	50	Erosion of natural deposits; discharge from mines
Sodium (ppm)		N	41.2	32.7	31.8	31.8	18.2	NA	160	Leaching from soil

SYNTHETIC ORGANIC CONTAMINANTS

Contaminant	Date of Sampling (mo/yr)	MCL Violation Y/N	1A	2A	3A	3BC	BVP	MCLG	MCL	Likely Source of Contamination
Di(2-ethylhexyl)phthalate (ppb)	07/10	N	ND	ND	ND	ND	0.765	0	6	Discharge from rubber and chemical factories

STAGE 1 DISINFECTANTS & DISINFECTION BY-PRODUCTS

Contaminant	Date of Sampling (mo/yr)	MCL Violation Y/N	1A (range)	2A (range)	3A (range)	3BC (range)	BVP (range)	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/09 - 12/10	N	3.2 (1.0-3.5)	3.5 (2.3-4.5)	3.1 (0.5-3.5)	3.0 (1.9-4.5)	2.5 (0.5-3.5)	4.0	4.0	Water additive used to control microbes
HAA5-haloacetic acids (ppb)		N	45 (16.4-149.0)	31 (15.8-46.5)	15 (11.8-21.5)	18 (10.5-32.4)	5 (N/A)	NA	60	By-product of drinking water disinfection
TTHM-total trihalomethanes(ppb)		N	32 (11.2-31.3)	30 (19.2-36.8)	18 (14.6-25.0)	44 (15.3-92.5)	3 (N/A)	NA	80	By-product of drinking water disinfection

LEAD & COPPER (Tap Water)

Contaminant (90th Percentile Value)	Date of Sampling (mo/yr)	AL Violation Y/N	1A	2A	3A	3BC	BVP	MCLG	Action Level (AL)	Likely Source of Contamination
Copper (Tap Water) (ppm)	01/10 - 12/10	N	0.020	0.034	0.085	0.042	0.020	1.3	1.3	Corrosion of household plumbing systems, erosion of natural deposits
# of Sites exceeding the AL			0	0	0	0	0			
Lead (Tap Water) (ppb)		N	2.3	2.0	1.48	0	0.9	0	15	
# of Sites exceeding the AL			0	0	0	0	0			

Contaminant	Date of Sampling (mo/yr)	MCL Violation Y/N	1A	2A	3A	3BC	BVP	MCLG	MCL	Likely Source of Contamination
Color (color units)	9/10	Y	17	N/A	N/A	N/A	N/A		15	Naturally occurring organics



Water Quality

Source of Water

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. 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 the period from 2003 through 2004. The database was updated by FDEP in 2009. The report(s) indicated 25 potential sources of contamination in District 1A and 14 potential sources of contamination in District 2A. Potential sources include gas stations, dry cleaners, and other businesses that operate in the service areas. All potential sources are considered to be of moderate concern based on FDEP scoring results. Additional assessment information is available on the FDEP Source Water Assessment and Protection Program Web site at www.dep.state.fl.us/swapp.

Softening

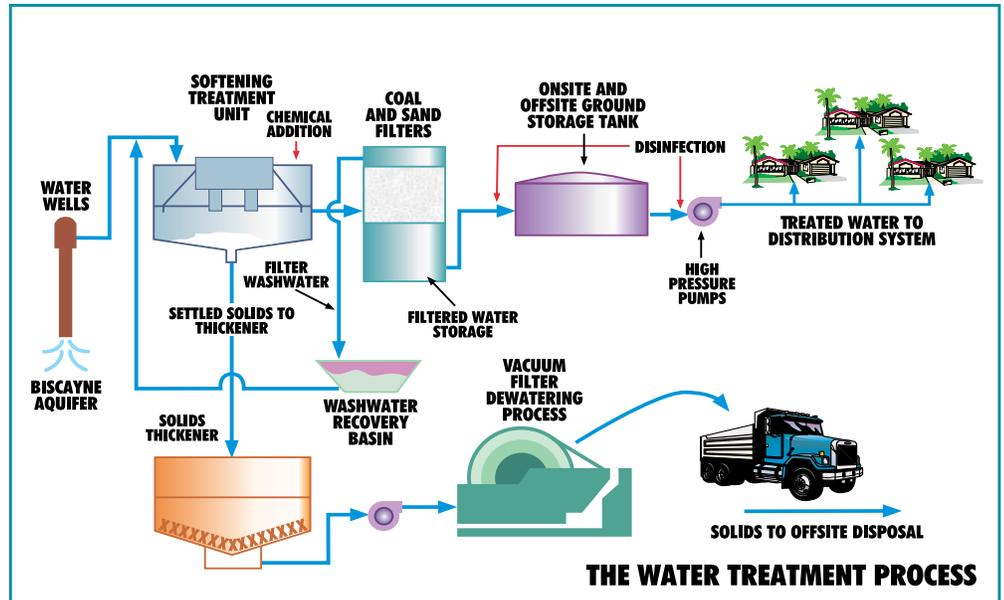
At the water treatment plant, the ground water is initially treated with lime and ferric chloride to reduce hardness and color. During this step of the treatment process, chemicals are added so that most of the hardness and particles in the water can be easily removed.

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.



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

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. Dewatered solids are finally hauled away for land application.

Monitoring

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.

Possible Contaminants

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.
- (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 (FDA) regulations establish limits for contaminants in 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 EPA'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. Environmental Protection Agency/Center for Disease Control 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. Broward County Water & Wastewater Services 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 Safe Drinking Water Hotline or at **www.epa.gov/safewater/lead**.





Broward County's Commitment to Conservation

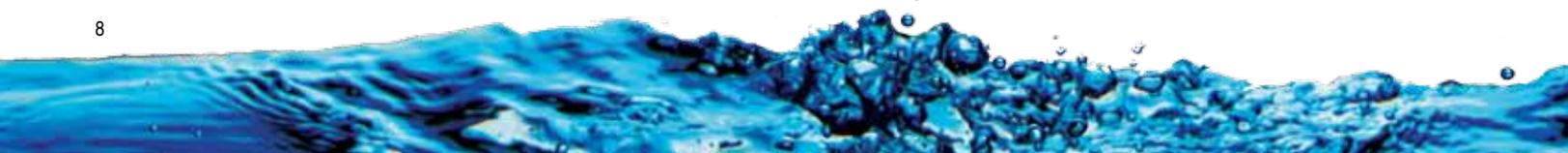
Conservation is central to maintaining an adequate supply of drinking water for the present and the future. Broward County has developed a water conservation program that includes the following components:

Regulations

- Ultra-low volume plumbing fixtures are required for all new construction
- Lawn watering and car washing restrictions, www.broward.org/waterservices.
- Rain Sensor devices must be installed in all new irrigation systems
- Two-day per week, year-round landscape watering restrictions are mandatory for County, city and private water customers

Programs

- WWS offers credits of up to \$200 per home to customers who replace their high water use toilets with new, high-efficiency model toilets. WWS is partnering with the U.S. Environmental Protection Agency (USEPA) to promote their WaterSense® Labeled Toilet Program. For more information on WWS's Toilet Credit Program, visit www.broward.org/waterservices.
- WWS maintains an aggressive leak detection program to minimize water losses.
- WWS sponsors a low-income assistance leak repair program.
- WWS's 10-mgd wastewater reuse facility supplies water for the North Resource Recovery Facility and for lawn irrigation.
- WWS uses increasing block water rates which means the more water you use, the higher rate per 1,000 gallons you pay.



Water Reality Check

Until your attention is drawn to it, you may not realize how much water you use — and waste — every day. It can add up quickly when you consider the number of times we engage in activities that require water. Each Broward County resident uses an average of 161 gallons of water every day. Consider the following activities and how much water they require. Estimate the amount of water you use based on these figures. Surprising, isn't it?

Activity	Water Used with Wasteful Practices	Water Used with Conserving Practices
Showering for 10 minutes	About 50 gallons (conventional showerhead)	About 25 gallons (low-flow showerhead)
Shaving	20 gallons (water on)	1 gallon (fill sink)
Washing hands for 2 minutes	10 gallons (traditional faucet)	4 gallons (using faucet aerator)
Flushing the toilet	3 to 5 gallons	1.6 gallons (low-flow model)
Washing the car	100 or more gallons (hose running)	10 to 15 gallons (fill bucket)
Brushing teeth	4 gallons (water on)	.25 gallons or less (water off, fill glass to rinse)
Washing dishes	30 gallons (tap running)	5 gallons (fill sink)
Using a dishwasher	16 gallons (partial load, full or pot-scrubber cycle)	9 gallons (light wash, full load)
Washing clothes	35 to 40 gallons/load (highest water level)	25 gallons (lower water level, adjusted to load)

Sources: EPA, USGS, California Urban Water Conservation Council





Ten Ways to Save Water

1. Test for a leaking toilet by adding food coloring to the tank. If any color appears in the bowl after 30 minutes, your toilet is leaking. Leaking toilets waste 200 gallons of water a day.
2. Use water conserving plumbing fixtures and water flow constrictors on sinks and showers. If you don't have a low flow toilet, place two half-gallon plastic bottles filled with water in your toilet. This saves one gallon of water each time you flush.
3. Run your dishwasher and wash clothes only when you have a full load.
4. Take short showers instead of a bath. Baths can use 30 to 50 gallons of water. Showers use five gallons of water per minute, less if a flow constrictor is installed.
5. Check your water meter while no water is being used. If the dials are moving, you have a water leak.
6. Don't run water continuously when washing dishes, brushing your teeth, washing your hands and face, or shaving.
7. Avoid using a garbage disposal. Disposals use a great deal of water. Add your garbage to the compost or trash instead of putting it down the garbage disposal.
8. Choose plants that are native to the area you live or plants that are drought resistant for landscaping and gardens. Native plants are used to the natural amount of precipitation that occurs in the area in which they are found and normally do not require any additional watering. For information on Florida Friendly Landscape, visit www.broward.org/naturescape.
9. Water lawns and gardens during the coolest part of the day. Use drip irrigation to apply water slowly exactly where it is needed. Collect rainwater from the gutter system on a house in a rain barrel to use for watering.
10. Use a bucket of water and a spray head on the hose to wash your car. A running hose wastes more than 100 gallons of water in the time it takes to wash the car.

Test Your Water Knowledge

TRUE FALSE QUIZ

Some of these statements are true. Some are not.
Can you find all the true statements?

Circle **T** for True or **F** for False

1. Most of the time, the water from fire hydrants and home faucets goes through the same system of water mains, pumps, and storage tanks. T F
2. Firefighters need water to come out of hydrants at a high pressure. T F
3. Water pipes that run underground last forever and don't need to be replaced. T F
4. Many water utilities in North America add fluoride to their water to prevent tooth decay. T F
5. A well-maintained water delivery system has fewer leaks. T F
6. Community water providers do not need to meet strict federal and state water quality standards. T F
7. The infrastructure of the water system includes the people who use the water, like families, businesses, and firefighters. T F
8. Most businesses do not succeed without a safe and reliable water supply. T F
9. Most tap water in the United States and Canada is not safe to drink. T F
10. Most of the water pipes that run underground were built in the last ten years. T F
11. A break in a water main will never affect fire hydrants. T F



Answer key: 1 T; 2 T; 3 F; 4 T; 5 T; 6 F; 7 F; 8 T; 9 F; 10 F; 11 F

Answers for statements that are false:

3. The infrastructure of the water system, such as pipes and pumps, wear out and need to be repaired or replaced over time.
6. In the United States, water utilities must meet close to 100 national rules for water quality, and there are additional rules in many states. Canadian provinces have similar rules.
7. The water system infrastructure means the "pieces" of the water delivery system: the pipes, pumps, tanks, and water mains that deliver water safely to our faucets.
9. Tap water in North America is among the safest in the world. Our high standards for water quality prevent waterborne diseases that afflict people in many developing countries.
10. Many of the water mains and pipes in North America are more than 50 years old, and sometimes more than 100 years old.
11. A water main break could reduce the pressure of water coming out of a fire hydrant, which makes it harder for a firefighter to put out a fire.