

2006

Consumer Confidence Report (CCR) City of Columbus, OH



Primary Drinking Water Standards

Substances we detected (units)	When we checked	What's allowed? (MCL)	What's the goal? (MCLG)	Dublin Road Water Plant		Hap Cremean Water Plant		Parsons Avenue Water Plant		Violation?	Where did it come from?
				Level Found	Range	Level Found	Range	Level Found	Range		
Fluoride (ppm)	2006	4	4	1.09	0.94-1.09	1.17	0.80-1.17	1.14	0.93-1.14	No	Water additive – protects teeth
Nitrate (ppm)	2006	10	10	12.0 ¹	<0.5–12.1	1.8	0.7-1.8	ND	ND	Yes ¹	Agricultural fertilizer runoff
Simazine (ppb)	2006	4	4	0.22	<0.10-1.00	0.68	<0.10-1.05	ND ²	ND ²	No	Agricultural herbicide runoff
Atrazine (ppb)	2006	3	3	0.76	<0.10-2.01	0.74	<0.10-1.42	ND ²	ND ²	No	Agricultural herbicide runoff
Alachlor (ppb)	2006	2	0	ND	ND	ND	ND	ND ²	ND ²	No	Agricultural herbicide runoff
Metolachlor (ppb)	2006	No set level	No goal set	0.21	<0.20-0.69	<0.20	<0.20-0.28	ND ²	ND ²	No	Agricultural herbicide runoff
Metribuzin (ppb)	2006	No set level	No goal set	<0.10	<0.10-0.19	<0.1	<0.1-0.12	ND ²	ND ²	No	Agricultural herbicide runoff
Chloroform (ppb)	2006	No set level	0	9.6	N/A	25.7	N/A	1.9 ²	N/A	No	By-product of drinking water disinfection
Bromodichloromethane (ppb)	2006	No set level	0	5.8	N/A	8.2	N/A	4.0 ²	N/A	No	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2006	No set level	60	1.8	N/A	1.4	N/A	5.8 ²	N/A	No	By-product of drinking water disinfection
Bromoform (ppb)	2006	No set level	0	< 0.5	N/A	< 0.5	N/A	2.6 ²	N/A	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	2006	80	No goal set	56.2	21.9-103.0	55.1	22.0-83.2	15.5	10.1-25.6	No	By-product of drinking water disinfection
Total Haloacetic Acids (ppb)	2006	60	No goal set	51.9	24.2-97.3	50.4	34.3-60.5	5.6	3.1-11.8	No	By-product of drinking water disinfection
Total Alpha (pCi/L)	2003	15	0	< 3	N/A	< 3	N/A	< 3 ³	N/A	No	Erosion of natural deposits
Total Beta (pCi/L)	2003	50	0	8.5	N/A	4.6	N/A	N/A	N/A	No	Decay of natural and man-made deposits
Total Organic Carbon	2006	TT (removal ratio >1)	No goal set	2.23	1.70-2.63	2.01	1.76-2.38	N/A	N/A	No	Naturally present in environment
Total Coliform Bacteria	2006	Present in <5% of monthly samples	0%	0.7% ⁴	0-0.7%	0.0%	0.0-0.0%	0%	0.0-0.0%	No	Bacteria present in environment
Total Chlorine (ppm)	2006	4 (MRDL)	4 (MRDLG)	1.52	0.38-2.16	1.62	0.33-2.70	1.08	0.21-2.01	No	Disinfectant
Turbidity (NTU)	2006	TT (<1 NTU)	No goal set	0.58	0.03-0.58	0.18	0.04-0.18	N/A	N/A	No	Soil runoff
		TT (% meeting Std.)	No goal set	98%	98-100%	100%	100-100%	N/A	N/A		
Nickel (ppb)	2006	100	100	21.0	N/A	ND	N/A	ND ²	N/A ²	No	Erosion of natural deposits, electroplating, alloying, mining and refining operations
Substances we detected (units)	When we checked	Action Level (AL)	What's the goal? (MCLG)	Concentration at 90 th percentile		Range		# of sites found above the Action Level		Violation?	Where did it come from?
Lead (ppb)	2005	15	0	< 1		< 1 – 30.6		1 out of 50		No	Corrosion of household plumbing
Copper (ppm)	2005	1.3	1.3	0.059		0.002 – 0.070		0 out of 50		No	Corrosion of household plumbing; Erosion of natural deposits

¹ **Nitrate Violation:** May 23rd to May 31st of 2006, drinking water from the Dublin Road Water Plant exceeded the nitrate MCL of 10 ppm. Water supplied by the Hap Cremean and Parsons Avenue Water Plants did not exceed the MCL.

² 2005 Data, Not required to monitor in 2006.

³ 2002 Data, Not required to monitor in 2006.

⁴ One (1) sample out of 145 in August 2006 indicated the presence of coliform bacteria = 1/1568 for the year.

Other Water Quality Parameters of Interest

Substances we detected (units)	When we checked	What's allowed? (MCL)	What's the goal? (MCLG)	Dublin Road Water Plant		Hap Cremean Water Plant		Parsons Avenue Water Plant		Where did it come from?
				Annual Avg.	Range	Annual Avg.	Range	Annual Avg.	Range	
pH (units)	2006	7.0-10.5 (SMCL)	No goal set	7.8	7.6 – 7.8	7.8	7.6 - 7.9	7.8	7.7 – 7.9	Treatment process
Hardness (ppm)	2006	No set level	No goal set	118	117 - 120	114	106 - 119	122	120 - 123	Naturally occurring
Sodium (ppm)	2006	No set level	No goal set	52	38 - 75	15	12 - 23	61	53 - 68	Natural/Treatment process

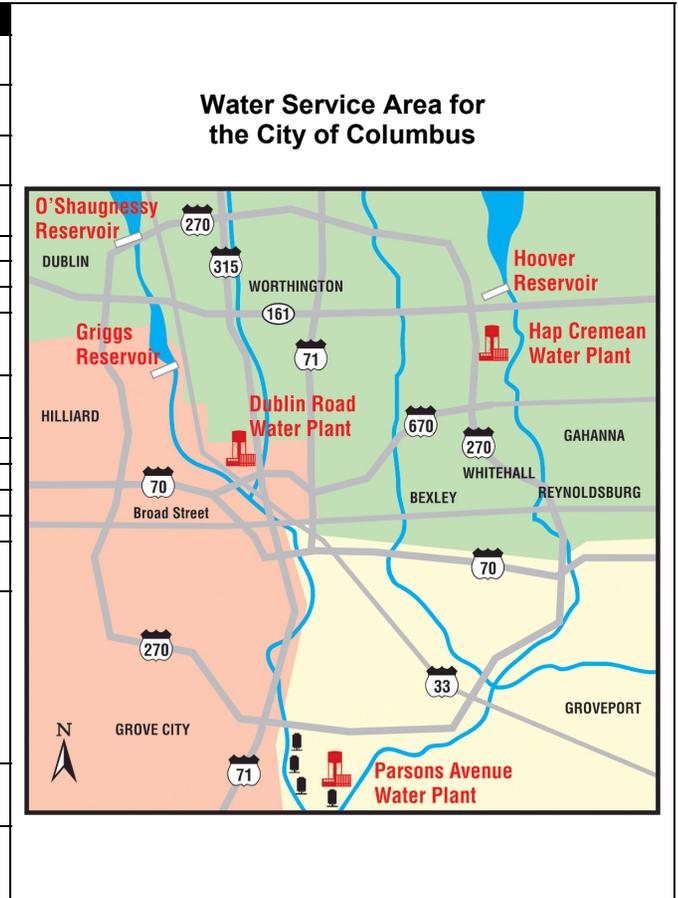
If you have any questions about this data please call the Columbus Water Quality Assurance Lab at (614) 645-7691, or www.columbuswater.org

The Water Service Area Map

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. Each home, school and business in the greater Columbus area receives water from one of the following three water plants:

- **Dublin Road Water Plant (DRWP)** serves northwestern and southwestern residents using water from Griggs and O'Shaughnessy Reservoirs.
- **Hap Cremean Water Plant (HCWP)** serves OSU and northern residents. The water source is the Hoover Reservoir.
- **Parsons Avenue Water Plant (PAWP)** draws water from wells and serves residents in the southeast.

Definitions and Terms	
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 Goal (MCLG)	The level of a contaminant in drinking water, below which there is no known or expected health risk. MCLGs allow for a margin of safety.
Maximum Contaminant Level (MCL)	The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.
Secondary MCL (SMCL)	A nonenforceable numerical limit set by the USEPA for a contaminant on the basis of aesthetic effects to prevent an undesirable taste, odor, or appearance.
N/A	Not Applicable
ND	No Detect
NTU	Nephelometric Turbidity Unit (a measure of particles held in suspension in water.)
Parts per Billion (ppb) or Micrograms per Liter (ug/L)	Are units of measurement for concentration of a contaminant. A part per billion corresponds to one second in roughly 31.7 years.
Parts per Million (ppm) or Milligrams per Liter (mg/L)	Are units of measurement for concentration of a contaminant. A part per million corresponds to one second in roughly 11.5 days.
pCi/L	Picocuries per liter (a measure of radiation.)
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
The ">" symbol	This symbol means "greater than".
The "<" symbol	This symbol means "less than". For example, a result of < 5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.
Total Organic Carbon	The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements. The value reported under "Range" for TOC is the lowest monthly ratio to the highest monthly ratio.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water. For turbidity the level must be under 0.3 NTU 95% of the time, and always < 1 NTU.
Turbidity	Is a measurement of the cloudiness of the water. We monitor turbidity because it is a good indication of water quality and the effectiveness of our treatment process.



Contact Us

Call **311** for City Services or (614) 645-3111, or visit the web at www.311.columbus.gov

For questions involving billing, accounts, service calls, bill payments, and additional CCR copies please contact **Customer Service** at: **(614) 645-8270**

For questions involving water emergencies, waterline breaks, hydrant damage or leaks, please contact **Distribution Maintenance** at: **(614) 645-7788**

We're interested in your questions and concerns about your water. The Sewer and Water Advisory Board meetings are open to the public. Call **(614) 645-3956** for a schedule of meeting times and dates.



For additional information or questions about Columbus water quality please call the **Water Quality Assurance Lab** at **(614) 645-7691**, or visit our website at www.columbuswater.org

City of Columbus
Michael B. Coleman, Mayor

Department of Public Utilities
Tatyana Arsh, P.E., Director

Division of Water
Richard C. Westerfield, P.E., Ph.D, Administrator

Source Water Assessment Information

A high-quality source water supply allows the Division of Water to provide consumers with quality water at a reasonable cost. Protecting our raw water sources requires investments to secure the needs of a growing population, now and in the future. As part of its on-going efforts to maintain regulatory compliance and monitor our water supply, the Division of Water has completed a Source Water Assessment process. Below is a synopsis of the results: The City of Columbus water system uses surface water from the Scioto River and Big Walnut Creek, as well as ground water pumped from sand and gravel deposits of the Scioto River Valley. All three sources of water have a relatively high susceptibility to contamination from spills or releases of chemicals. The ground water pumped at the Parsons Avenue plant is susceptible (compared to other ground water systems) because there is no significant clay overlying and protecting the aquifer deposits. The Scioto River and Big Walnut Creek are even more susceptible because they are more accessible and less protected from spills. The drinking water source protection areas for the City of Columbus' three water sources contain numerous potential contaminant sources, especially the protection area for the Dublin Road Water Treatment Plant (extending along the Scioto River). These include industrial activities, storm water runoff from developing areas, and a heavily traveled transportation network running alongside and over the water bodies. Run-off from agricultural fields is a concern in both the Scioto River and Big Walnut Creek watersheds. The City of Columbus treats the water to meet drinking water quality standards, but no single treatment protocol can address all potential contaminants. The City has been proactive in pursuing measures to further protect its source waters. These include land stewardship programs and incentive-driven programs to reduce erosion and run-off of pesticides and fertilizers into the Scioto River and Big Walnut Creek and their reservoirs. More detailed information is provided in the City of Columbus' Drinking Water Source Assessment Report, which can be viewed by calling the Watershed section at (614) 645-1721.

Common Water Quality Concerns

Rusty Water

It is important to note that when rusty water is experienced it is normally not a health concern but one of aesthetic quality. Rusty-brown, orange, or light yellow water can be caused by a variety of reasons including: water main breaks, fire fighting operations, hydrant flushing or broken hydrants, construction work or damage, system depressurizations, and corroding iron pipes. Normally rusty water events dissipate in 4-6 hours but could last longer depending on water usage in the area. If the event lasts more than 24 hours please call our distribution group at 645-7788.

During such an event, it is of little to no value for you to run your water until it turns clear; this is wasteful and costly to you as a consumer. During such events, use of HOT water should be kept to a minimum, as it will draw cold rusty water into your hot water tank. If your hot water tank does have rust in it, use caution and please follow the manufacturer's directions for shutting down, draining, and re-starting your hot water tank.

Clothing washed in rusty water can become stained. Should this occur, it is important not to dry the clothing. Instead, leave the wet clothing in the washer and apply an iron removal product as soon as possible to prevent the iron stain from setting. Please follow the manufacturer's instructions.

Fluoridation

Fluoride is added during water treatment in accordance with the American Dental Association's findings and recommendations regarding significant cavity reduction in the population. In 1970 a state law was passed which allowed local government to permanently adopt fluoridation for their local water systems. The City of Columbus voted to fluoridate beginning January 1973. Since then, the fluoride concentration in Columbus water has averaged 1 ppm.

Cloudy Water

Cloudy water is usually caused by temperature change and the presence of dissolved air in the water. When water appears to have a milky white, gray, or carbonated appearance a simple test may suffice to denote its origin. Fill a clear glass with tap water and observe it over a minute or so. If the glass clears from bottom to top, then it is dissolved air escaping into the atmosphere. There is no health risk associated with this situation. Cloudy water is very common in the winter and can last for quite a long time.

Water Hardness

Hardness is a measure of the presence of the minerals calcium and magnesium in water. As water moves through or over the earth, it picks up these minerals and causes the water to become "hard." The usage of the word "hard" in this case refers to the difficulty with which the water produces soapsuds, with successively harder water requiring more and more soap.

The City of Columbus softens its water on average to 120 ppm, or approximately 7 grains per gallon. This is considered moderately hard by national standards and is optimal for corrosion control. Very soft water can be corrosive to home plumbing.

Common Water Quality Concerns

White Particles

White or grayish particles in your water can often be attributed to two different sources both of which pertain to the condition of the hot water tank. There is no health risk associated with this situation. The characteristics of the particles will help determine the source. If you have white, gray, or dark gray particles that give off bubbles when submerged in white vinegar, you most likely have calcium carbonate particles. These particles are often formed from the hardness of Columbus water when it is heated over 140 degrees Fahrenheit (60 degrees Celsius) in your hot water tank. To help prevent it, you should turn the temperature down on the tank. If your hot water tank has calcium carbonate deposited in it, use caution and please follow the manufacturer's directions for shutting down, draining, and re-starting your hot water tank.

If you have white particles that reduce water flow by clogging the aerators on your faucets, and that do not give off bubbles when submerged in white vinegar, you most likely have a disintegrating dip-tube. These particles are formed when the plastic dip-tube from the hot water heater degrades and disintegrates in the tank. Please consult with your tank's manufacturer. You will need to have the dip-tube replaced either by the manufacturer, or a qualified technician.

Pink or Dark Stains in the Toilet or on Fixtures

Airborne organisms are usually the cause. You will see grey, black, or sometimes pink film on surfaces that are regularly moist, including toilet bowls, showerheads, sink drains, dishwashers, and shower tiles. These organisms are controlled with normal drinking water disinfectants and, therefore, are not found in the water but can come from dust or dirt that is airborne. Regular cleaning and ventilation should reduce these nuisance organisms.

Chlorinous Taste & Odor

The City of Columbus has a long and successful history of water treatment involving the chemical chlorine. The Water Quality Assurance Laboratory and the city water plants check the chlorine content throughout the city **daily** to insure the highest quality control. Without proper initial disinfection and continuing residual protection in the distribution system, the city's entire water distribution system would become vulnerable to bacteriological organisms.

If the taste or odor is found to be objectionable, it should be noted that you could eliminate the taste of chlorine in your water by setting an open pitcher in your refrigerator overnight.

Musty Taste & Odor

Occasionally Columbus water has an earthy, musty or fishy taste and odor. These seasonal phenomena can be caused by the bi-annual turnover of our city reservoirs, or with the presence of varied algal blooms in the reservoirs or rivers. It is important to note this taste and odor poses no health concern. Advanced treatment techniques involving powder activated carbon and remote real-time sensors are being used to help mitigate this problem.

Sulfurous Taste & Odor

The most likely cause of a sulfurous or rotten-egg like odor is from either the water trap below the sink (i.e. the 'P-trap') or from within the faucet itself. As organic material settles in the water trap beneath the sink a sulfurous, or rotten egg smell is often mistakenly perceived as coming from the water. The best way to test this theory is by filling a glass of water at the sink and then smelling it away from the sink in a different room. If the smell disappears, then the problem is most likely in the sink itself. Pouring a ¼ cup of bleach down the drain and allowing it to sit overnight should help to relieve the problem. Cleaning the aerator is also recommended. It is important to note that this odor is normally not a health concern but one of aesthetic quality.

Less than 1% of the world's water supplies are available for human consumption.

What's NOT in Your Water

Reports in the media often raise concerns about the health risks associated with the presence of certain minerals, chemicals, or other contaminants in your food or water. The Columbus Division of Power and Water performs thousands of tests each year to ensure drinking water quality. Many substances, for which the Division tests, never appear in this report because they are not found in the drinking water. For example, there are 51 volatile organic chemicals as well as arsenic, perchlorate, asbestos, MTBE, radium 228, and ammonia (just to name a few) that are **NOT** found in your drinking water.

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 storm water 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 storm water 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 storm water 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, USEPA prescribes regulations which limit the amount of certain contaminants in drinking water provided by public water systems. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1 (800) 426-4791.

Newborns and Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Local television, radio and print media will be notified within 24 hours if the level of nitrate rises above 10 ppm. The media will similarly be notified once the level decreases. If you are caring for an infant you should seek advice from your health care provider.

The Dublin Road Water Plant exceeded the nitrate MCL of 10 ppm from May 23rd to May 31st of 2006. Water from the HCWP and PAWP did not exceed the MCL in 2006.

Lead in the Home

The lead concentration in the drinking water leaving our water treatment plants is below the level of detection. However, lead can enter the water from household brass fixtures, lead pipes, or lead solder, when water resides in the plumbing for more than six hours. Most homes in the Columbus area do not have lead service lines and have little to no detectable levels of lead in their tap water. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Additionally, flush your tap water for at least two (2) minutes before using it. More information is available from the Safe Drinking Water Hotline at 1 (800) 426-4791, or call (614) 645-8270 for your free copy of "What You Need to Know About Lead in Drinking Water."

Turbidity

Utilities that treat surface water and filter the water are required to monitor for turbidity which is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. The highest recorded turbidity for HCWP was 0.18 NTU and the lowest monthly percentage of samples meeting the standard was 100%. The highest recorded turbidity for DRWP was 0.58 NTU and the lowest monthly percentage of samples meeting the standard was 98%.

Total Organic Carbon

The value reported under “Level Found” for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements. The value reported under “Range” for TOC is the lowest monthly ratio to the highest monthly ratio.

Health Concerns/Water Quality Testing

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice from their health care providers about drinking water.

Cryptosporidium (“Crypto”), for example, is a microscopic organism that, when ingested, can result in diarrhea, fever, and other gastrointestinal symptoms. Crypto comes from animal wastes in the watershed and maybe found in our source water. Crypto is eliminated by using a multi-barrier water treatment process including coagulation, sedimentation, softening, filtration and disinfection. 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 at 1(800) 426-4791.

Columbus’ water is regularly tested for organisms that could be harmful to people — including *Cryptosporidium*. While it is sometimes found in Ohio rivers and streams, Crypto has **NEVER** been found in our finished drinking water.

In 2006, the Water Quality Assurance Lab’s (WQAL) EPA licensed and certified laboratory staff completed over 40,000 analyses relating to 29 different organic, inorganic, and microbiological water quality parameters.

As with the WQAL staff, the State of Ohio licenses and certifies the water plant operators who are charged with running and maintaining each of the three water treatment plants. These operators also perform the critical task of treatment and process monitoring to insure that the water leaving the plant is of the highest quality.

Safe and reliable water is our duty to the citizens of Columbus and the surrounding metro area, and it is one which we take most seriously. Hundreds of tests per day (ranging from the upper most reaches of the Columbus watershed, to the plants and the treatment process, to the storage tanks and the entire distribution system, and right up to the tap) take place to ensure that Columbus water is safe, reliable, and always there for you.

COMPARISON CHART FOR WATER USAGE AND SAVINGS



	<i>Normal Usage</i>		<i>Conservation Usage</i>		Savings
	<i>Gals Used</i>	<i>Method</i>	<i>Gals Used</i>	<i>Method</i>	
Shower (10 mins)	50	Shower head running continuously	25	Shorter showers (5 mins) OR	50%
			25	Low flow shower head (10 min) OR	50%
			12.5	Low flow shower head (5 min)	75%
Tub Bath	36	Standard tub, full	18	Standard tub, half full	50%
Toilet Flushing	5-7	Depends on tank size	4-6	Use a displacement bag, or milk jug in tank reservoir (OR)	20%
			1.6	Replace with low flow toilet	73%
Washing Hands	5	With tap running continuously	1	Fill a standard basin	80%
Brushing Teeth	10	With tap running continuously	1	Wet brush with brief rinses	90%
Shaving	20	With tap running continuously	1	Fill a standard basin	95%
Washing Dishes	30	With tap running continuously	10	Wash and rinse with a half filled standard sink.	66%
Dishwasher	16	Full cycle	7	Short cycle	56%
Washing Machine	60	Full cycle; Highest water level	27	Short cycle	55%
Outdoor Watering	10	Per minute; Average garden hose	varies	Eliminate, night watering, etc.	varies

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