

PRESORT STD
US POSTAGE
PAID
DATAMARK

Florence Public Services Department Annual Drinking Water Quality Report July 1, 2023

PWSID # KY0080135



Annual Drinking Water Quality Report July 1, 2023

The City of Florence presents this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you each day. The City of Florence Public Services Department routinely monitors for contaminants in your drinking water according to federal and state regulations. Our mission is to provide you with a safe and dependable supply of drinking water in a financially responsible manner.

During 2022, we purchased our water from the Boone-Florence Water Commission. The Boone-Florence Water Commission receives its water from Greater Cincinnati Water Works (GCWW), www.cincinnati-oh.gov/water, which is treated surface water from the Ohio River.

The City of Florence is pleased to report that our system has met all sampling, monitoring, and reporting requirements of the Federal and State Environmental Protection Agencies during the reporting year 2022. The tables on the following pages show the results of our monitoring for the period of January 1st to December 31st, 2022.

We want our customers to be informed about their water quality. If you want to learn more about your water quality, please contact our office at 859-647-5416 or visit our website at www.florence-ky.gov. Copies of this report are available at the Public Services Department, Florence Government Center, 8100 Ewing Blvd. Copies of the Greater Cincinnati Water Works Annual Drinking Water Quality Report is also available at the Public Services Department or their website at <https://www.cincinnati-oh.gov/water/water-quality-and-treatment/water-quality-reports/>.

THM (Trihalomethanes)

The current MCL for total trihalomethanes (TTHM) is 80 ppb. Although our water is below the MCL, we are including the following health effects language.

Some people who drink water containing Trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

For an opportunity to participate in public discussions regarding items which might affect water quality, we invite you to attend the weekly meetings of the Florence City Council which are held every Tuesday at the Florence Government Center at 6:30 p.m. For more information on dates and times please visit www.florence-ky.gov or call (859) 647-5416 on weekdays between 8:30 a.m. and 5:00 p.m.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

(This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)



Water Source Information Drinking Water Regulations

Greater Cincinnati Water Works performs an average of 300 tests per day throughout their system to ensure safe drinking water. Source waters are tested routinely to detect contaminants before they enter treatment plants. Water quality experts then test the water after each stage of the treatment process to ensure optimal treatment. Finally, water samples are collected in the distribution system to monitor the quality of the water once it has left the treatment plant.

The surface water source of raw water for GCWW is the Ohio River. A source water assessment has been completed. The following is a summary of the susceptibility analysis that is part of the source water assessment. Several areas of concern are related to the extensive development of transportation infrastructure, the potential for spills, high degree of impervious cover and polluted runoff. Areas of row crops and urban and recreational grasses introduce the potential for herbicide, pesticide, and fertilizer use – possible non-point source contaminants. Bridges, railroads, ports, waste handlers or generators, and Tier II hazardous chemical users in the area introduce the potential for spills or leaks of hazardous materials. Landfills and permitted discharges are relatively high in number for a supply area. Other areas of concern include several segments of streams already assessed as having impairments, power line right-of-way with potential herbicide use, and residential septic systems located throughout the watershed. Since the intake is in an urban area, the threat of underground storage tanks leaking must also be taken into account. The entire report is available at:

Northern Kentucky Area Development
District, 22 Spiral Drive, Florence, Ky 41042.
Phone: 859-283-1885.

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 may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Health Information

Cryptosporidium (Crypto) is a microscopic organism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms. GCWW has tested for Crypto in treated waters from the Miller and Bolton Treatment Plants throughout 2022 and has not detected it. The organism is found in GCWW source water and comes from animal wastes in the water shed. Crypto is eliminated by an effective treatment combination including sedimentation, filtration, and disinfection.

What contaminants could be 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, that 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

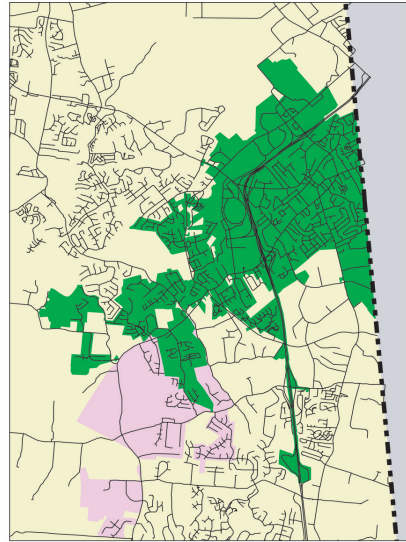
To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 (800-426-4791).

Information About 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 Florence 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 <http://www.epa.gov/safewater/lead>.

We at the City of Florence Public Services Department work diligently to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. For more information of our operations, visit our website at www.florence-ky.gov. Please call our office at 859-647-5416, if you have questions.



Florence Public Services Department

8100 Ewing Blvd.
Florence, KY 41042

Green..... Florence
Purple..... Union
Gray..... Kenton County
Tan..... Unincorporated Boone County
Black Lines..... Street Centerlines

Need to report an issue?

DOWNLOAD THE NEW

FLORENCE Y'ALL APP

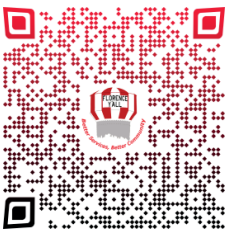


AND GET GREAT SERVICES AT
YOUR FINGERTIPS

Available for download

from

Google Play and the App Store



Protecting your drinking water

GCWW actively participates in two regional collaborative source water protection programs:

PROTECTION OF THE OHIO RIVER IN THE CINCINNATI AREA

GCWW has partnered with the Northern Kentucky Water District and the Ohio River Valley Water Sanitation Commission (ORSANCO) to implement an Ohio EPA-endorsed source water protection program for the Ohio River near Cincinnati. ORSANCO maintains 17 monitoring stations strategically placed along the Ohio River to detect and warn drinking water treatment plants about spills. GCWW participates as one of the monitoring stations for this program.

PROTECTION OF THE GREAT MIAMI BURIED VALLEY AQUIFER

The Hamilton to New Baltimore Groundwater Consortium is comprised of seven public and industrial ground water producers/suppliers in southwest Ohio. The Consortium maintains a network of early-warning monitoring stations, works with facilities that store hazardous substances to minimize the risk of spills, and educates the public on what they can do to protect groundwater.

For more information about source water protection or to find out what you can do to help, visit myGCWW.org, email info@gcww.cincinnati-oh.gov, call Greater Cincinnati Water Works at 513.591.7700, or call the Groundwater Consortium at 513.785.2464.



2022 GCWW WATER QUALITY REPORT

GCWW Meets or Exceeds All State and Federal Health Standards

Regulated Contaminants (Table A): Substances subject to a Maximum Contaminant Level (MCL), Action Level (AL), or Treatment Technique (TT). These standards protect drinking water by limiting the amount of certain substances that can adversely affect public health and are known or anticipated to occur in public water systems.

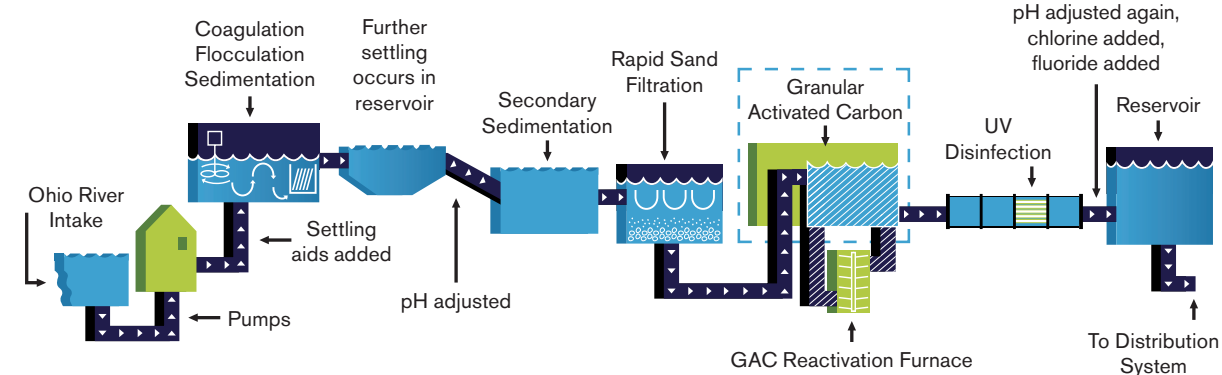
TABLE A: Regulated Contaminants			Miller Water (from the Ohio River)				Bolton Water (from the Great Miami Valley Buried Aquifer)				Typical Source of Contamination	
Substance (Unit)	Maximum Allowed (MCL)	MCLG	Highest Compliance Level Detected	Range of Detection	Violation	Year Sampled	Highest Compliance Level Detected	Range of Detection	Violation	Year Sampled		
Fluoride (ppm)	4.0	4.0	0.87	0.65 - 0.98	No	2022	0.86	0.74 - 0.97	No	2022	Additive which promotes strong teeth. May come from erosion of natural deposits.	
Nitrate (ppm)	10	10	0.94	0.64 - 0.94	No	2022	1.79	nd - 1.79	No	2022	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.	
THMs (ppb) [Total Trihalomethanes]	80	na	48.0	14.4 - 52.8	No	2022	48.0	14.4 - 52.8	No	2022	Byproduct of drinking water chlorination.	
HAA5 (ppb) [Total Haloacetic Acids]	60	na	10.8	2.2 - 12.6	No	2022	10.8	2.2 - 12.6	No	2022	Byproduct of drinking water chlorination.	
Turbidity (NTU)	TT1 < 1 NTU Max and TT2 < 0.3 NTU 95% of the time	na	0.11 100% < 0.3 NTU	0.03 - 0.11	No	2022	nr	nr	No	na	Soil runoff.	
1st Compliance Period (Jan - June)	Lead ¹ (ppb)	AL = 15 (the 90th percentile must be less than 15 ppb)	0	(2 of 111 samples tested during the first compliance period were > the AL) ²			(2 of 111 samples tested during the first compliance period were > the AL) ²			May come from erosion of natural deposits. There is no detectable lead in our water as it leaves the treatment plants. However, corrosion of household plumbing is a source of lead and copper contamination. GCWW tests water samples collected at customers taps, as required by the Safe Drinking Water Act to ensure safe water.		
	Copper ¹ (ppm)	AL = 1.3 (the 90th percentile must be less than 1.3 ppm)	1.3	(0 of 111 samples tested during the first compliance period were > the AL)			(0 of 111 samples tested during the first compliance period were > the AL)					
2nd Compliance Period (July - Dec)	Lead ¹ (ppb)	AL = 15 (the 90th percentile must be less than 15 ppb)	0	(1 of 109 samples tested during the second compliance period were > the AL) ²			(1 of 109 samples tested during the second compliance period were > the AL) ²					
	Copper ¹ (ppm)	AL = 1.3 (the 90th percentile must be less than 1.3 ppm)	1.3	(0 of 109 samples tested during the second compliance period were > the AL)			(0 of 109 samples tested during the second compliance period were > the AL)					
Total Organic Carbon ²		TT	na	1.68	1.60 - 3.49	No	2022	nr	nr	No	na	Naturally present in the environment.
Total Chlorine ¹ (ppm)		MRDL = 4.0	MRDLG = 4.0	1.12	1.04 - 1.2	No	2022	1.12	1.04 - 1.2	No	2022	Water additive used to control microbes.
Barium (ppm)		2	2	0.04	na ³	No	2022	0.014	na ³	No	2022	Erosion of natural deposits; Discharge of drilling wastes; Discharge from metal refineries.

Unregulated Contaminants (Table B): Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

TABLE B: Unregulated Contaminants		Miller Water (from the Ohio River)				Bolton Water (from the Great Miami Buried Valley Aquifer)				Typical Source of Contamination
Substance (Unit)	MCLG	Average Level Detected	Range of Detection	Violation	Year Sampled	Average Level Detected	Range of Detection	Violation	Year Sampled	
Chloroform (ppb) ¹	70	9.0	1.2 - 25.2	na	2022	9.0	1.2 - 25.2	na	2022	Byproducts of drinking water disinfection, measured at representative points in the distribution system.
Bromodichloromethane (ppb) ¹	0	8.9	3.6 - 14.3	na	2022	8.9	3.6 - 14.3	na	2022	
Dibromochloromethane (ppb) ¹	60	10.1	4.0 - 17.7	na	2022	10.1	4.0 - 17.7	na	2022	
Bromoform (ppb) ¹	0	4.5	nd - 19.4	na	2022	4.5	nd - 19.4	na	2022	
Monochloroacetic Acid (ppb) ¹	70	nd	nd - nd	na	2022	nd	nd - nd	na	2022	
Monobromoacetic Acid (ppb) ¹	na	0.3	nd - 1.7	na	2022	0.3	nd - 1.7	na	2022	
Dichloroacetic Acid (ppb) ¹	0	2.1	nd - 5.1	na	2022	2.1	nd - 5.1	na	2022	Erosion of natural deposits.
Trichloroacetic Acid (ppb) ¹	20	0.8	nd - 3.1	na	2022	0.8	nd - 3.1	na	2022	
Dibromoacetic Acid (ppb) ¹	na	3.0	1.5 - 6.4	na	2022	3.0	1.5 - 6.4	na	2022	
Sulfate (ppm)	na	59	43 - 74	na	2022	42	40 - 43	na	2022	
Perfluorooctanoic Acid (PFOA) (ppt)	na	nd	na	na	2022	nd	na ³	na	2022	
Perfluorooctanesulfonic Acid (PFOS) (ppt)	na	nd	na	na	2022	nd	na ³	na	2022	
Ammonium salt of Perfluoro-2-propoxypropanoic acid (GenX) (ppt)	na	nd	na	na	2022	nd	na ³	na	2022	Research into the harm that perfluoralkyl and polyfluoralkyl substances (PFAS compounds) may cause to human health is ongoing. PFAS compounds are manufactured chemicals that have been used in consumer products since the 1940s, usually in the manufacture of non-stick coatings, clothing, carpet, and food wrappers. GCWW's water does not violate any drinking water regulations. GCWW will be working with the Ohio EPA to investigate source water quality and operational or treatment modifications to minimize PFAS levels in the drinking water.
Potassium salt of Perfluorobutane sulfonic acid (PFBS)(ppt)	na	nd	na	na	2022	nd	na ³	na	2022	

Footnotes: 1. Miller and Bolton were considered as one distribution system for regulatory purposes by Ohio EPA during 2022. Data listed for each system represents the combined distribution system. 2. The value reported under "Highest Compliance Level Detected" for Total Organic Carbon (TOC) actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements. 3. GCWW collects one sample per year. 4. 2 of 111 samples were found to have lead levels in excess of the lead threshold level of 15 ppb during the first compliance period of 2022 (Jan-June); 1 result between 15-20 ppb; 1 result between 30-40 ppb. 1 of 109 samples were found to have lead levels in excess of the lead threshold level of 15 ppb during the second compliance period of 2022 (July-Dec); 1 result between 15-20 ppb.

TREATMENT PROCESS AT THE RICHARD MILLER PLANT ON THE OHIO RIVER



Backwash water from the sand filters and plant recycle water is returned to the beginning of the treatment process.

GCWW is proud to say that our water meets or exceeds every health standard developed by both the USEPA and Ohio EPA. In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which shall provide the same protection for public health. The tables on pages 6-9 show the substances detected in GCWW drinking water while performing the most up-to-date monitoring required by the EPA. The Ohio EPA requires GCWW to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Because of this, some of our data, though accurate, is more than one year old. For a complete listing of GCWW test results and additional water quality information, visit cincinnati-oh.gov/water/water-quality-and-treatment or call 513.591.7700.

Abbreviations

ppt: parts per trillion or nanograms per liter; **ppb:** parts per billion or micrograms per liter; **ppm:** parts per million or milligrams per liter; **nr:** not regulated; **na:** not applicable; **NTU:** Nephelometric Turbidity Unit (used to measure clarity in drinking water); **nd:** not detectable at testing limits; **THMs:** Total Trihalomethanes; **HAA5:** Haloacetic Acids

Definitions

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 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.

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

Treatment Technique or TT: A method for treating water to achieve acceptable levels of the contaminants in lieu of establishing a maximum contaminant level.

Maximum Residual Disinfection Level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfection Level Goal or MRDLG: The level of 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.

Turbidity: Utilities who treat surface water are required to report on turbidity as an indication of the effectiveness of the filtration system. Turbidity is a measure of the cloudiness of water. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month, and shall not exceed 1 NTU at any time. As reported in the table, GCWW's highest turbidity result for 2022 was 0.11 NTU (Miller Water) and lowest monthly percentage of samples meeting the turbidity limits was 100%.

The < symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

Lead Threshold Level: The concentration of lead in an individual tap water sample. The lead threshold level is exceeded at 0.015 milligrams per liter (15 ppb) concentration of lead in an individual tap water sample.

Boone Florence Water Commission (PWSID: KY0081013) Annual Water Quality Report Data Table						
Stage 2 Compliance Monitoring						
Regulated Contaminant (units)	MCL*	MCLG**	Highest Compliance Level Detected	Range Of Detection	Violation*/N	Likely Source of Contamination
Total Trihalomethanes (ppb)	80	N/A	39	39 to 39	N	By-product of drinking water chlorination
Haloacetic Acids (ppb)	60	N/A	5	5 to 5	N	By-product of drinking water chlorination
*maximum contaminant level **maximum contaminant level goal						
2022 Chlorine Data						
Substance (units)	MRDL*	MRDLG**	Highest Annual Average	Range Of Detection	Violation Y/N	Possible Health Effects
Free Chlorine (mg/l)	4	4	1.28	1.07 to 1.56	N	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
During 2022 the BFWC had 0 Routine Total Coliform Samples that were positive. *maximum residual disinfectant level **maximum residual disinfectant level goal						

City of Florence (PWSID: KY0080135) Annual Water Quality Report Data Table						
Stage 2 Compliance Monitoring						
Regulated Contaminant (units)	MCL*	MCLG**	Highest Compliance Level Detected	Range Of Detection	Violation Y/N	Likely Source of Contamination
Total Trihalomethanes (ppb)	80	N/A	39	22 to 39	N	By-product of drinking water chlorination
Haloacetic Acids (ppb)	60	N/A	11	3 to 10	N	By-product of drinking water chlorination
*maximum contaminant level **maximum contaminant level goal						
2022 Chlorine Data						
Substance (units)	MRDL*	MRDLG**	Highest Annual Average	Range Of Detection	Violation Y/N	Possible Health Effects
Free Chlorine (mg/l)	4	4	1.2	0.24 to 1.75	N	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
During 2022 the City of Florence had 1 Routine Total Coliform Sample and a repeat sample of that location that was positive (see paragraphs below). *maximum residual disinfectant level **maximum residual disinfectant level goal						

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One Level 1 assessment was completed. Positive samples were traced back to the actual faucet the samples were taken from. Once the problem was identified; repeat samples taken from a different faucet, at the same location, were negative.

Lead & Copper Data						
Regulated Contaminant (units)	Action Level (AL)	MCLG	90th Percentile Levels	Range Of Detection	Violation Y/N	Typical Sources of Contamination
Lead (ppb)	15 ppb	0	1	1 to 1.4	N	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservations
Copper (mg/l)	1.3 mg/l	0	0.021	0.005 to .025	N	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservations
Data Collected in 2020. During our most recent compliance period 0 samples tested were above the AL.						
Lead and Copper Compliance is met when 90% of the samples collected from worst case sites have lead and copper below the action level (AL)						



A typical dog excretes **274 pounds** of waste per year.

- **Pet waste is more than just a nuisance—it is also a serious health hazard.**
- **Pet waste is washed into storm drains and streams, causing pollution in our waterways.**

Scoop it, Bag it, Trash it!

What Can You Do?

- **Responsible pet owners pick up after their pets, both at home and on public land.**
- **Carry disposable bags and pick up pet waste. Properly dispose of pet waste by bagging and sealing the waste and depositing it in a trash can or pet waste receptacle.**



To report any storm water pollution issues or for additional information on storm water pollution prevention, call our Storm water Hotline: (859) 647-4623

