



## Annual Drinking Water Quality Report July 1, 2015

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 2014, 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](http://www.cincinnati-oh.gov/water), which is treated surface water from the Ohio River.

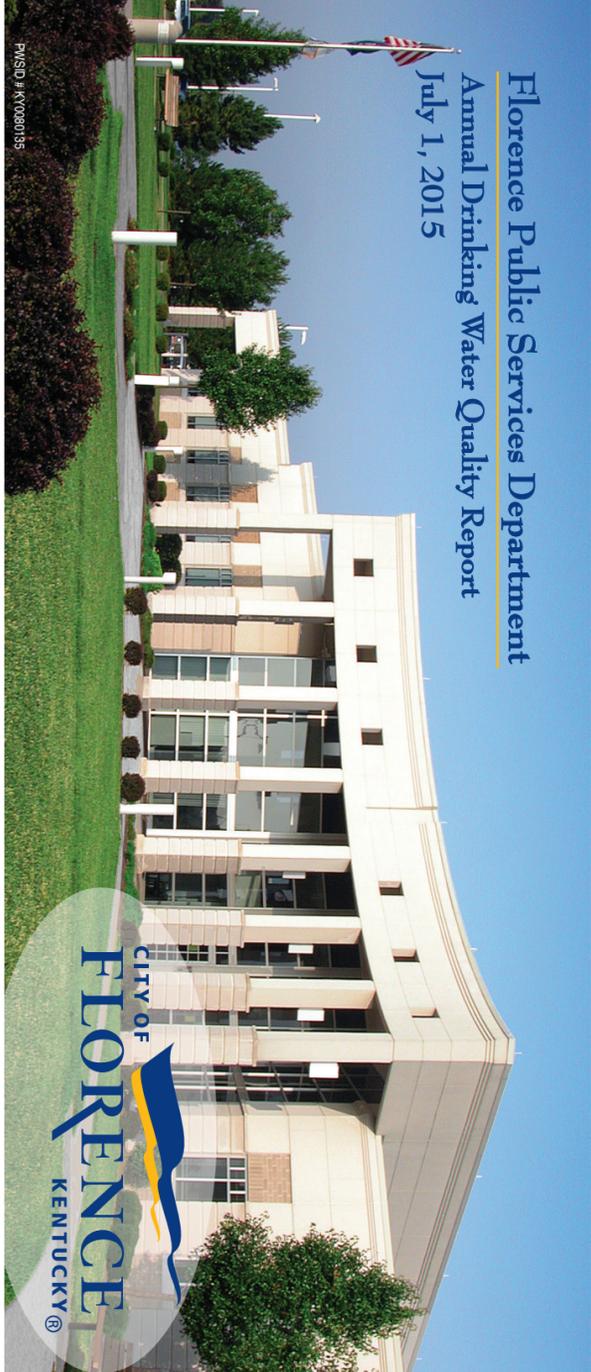
The City of Florence is pleased to report that our system has met all sampling, monitoring, and reporting requirements of the Federal and State Environmental Protection Agencies during the reporting year 2014. The tables on the following pages show the results of our monitoring for the period of January 1st to December 31st, 2014.

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](http://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 [www.cincinnati-oh.gov/water/about-greater-cincinnati-water-works/water-quality-reports/](http://www.cincinnati-oh.gov/water/about-greater-cincinnati-water-works/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.



### Stormwater Message

Pet waste is a health hazard and a water pollutant. Protect your health and our waterways by cleaning up after your pet. Do not leave pet waste on driveways, sidewalks or other impervious (hard) surfaces where it can wash into storm drains and waterways. Never place pet waste in a storm drain, stream or lake.

**Storm Water Hotline: (859) 647-4623**

### 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.

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](http://www.florence-ky.gov). Please call our office at 859-647-5416, if you have questions.

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>.

### Information About Lead:

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 (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 for thirteen years and has never 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.

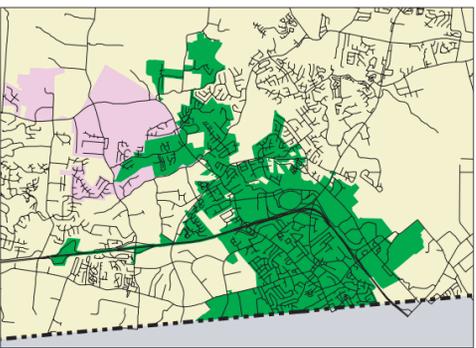
*Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).*

### 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 contaminant, 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.

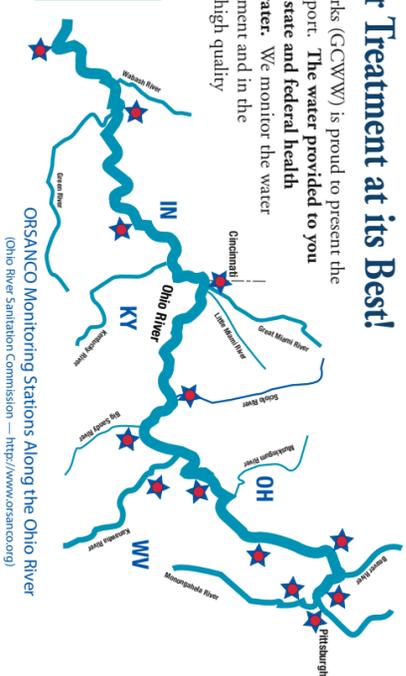
To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that shall provide the same protection for public health.



## GCWW - Water Treatment at its Best!

Greater Cincinnati Water Works (GCWW) is proud to present the 2014 Safe Drinking Water Report. **The water provided to you during the past year met all state and federal health standards set for drinking water.** We monitor the water from the source through treatment and in the distribution system to ensure high quality drinking water.

ORSANCO's coordinated early warning organic detection system on the Ohio River is the only such system in the United States.



## GCWW met or exceeded all state and federal health standards

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.

## REGULATED CONTAMINANTS

Substances subject to a Maximum Contaminant Level (MCL), Action Level (AL) or Treatment Technique (TT)\* are known or anticipated to occur in public water systems.

| Substance                   | MCL* | MCLG* | Highest Compliance Level Detected | Range of Detection |
|-----------------------------|------|-------|-----------------------------------|--------------------|
| *Fluoride (ppm)             | 4    | 4     | 0.94                              | .87 to 1.02        |
| Total Trihalomethanes (ppb) | 80   | na    | 37                                | 37                 |
| Haloaetic Acids (ppb)       | 60   | na    | 8                                 | 8                  |

\*Values are provided by Greater Cincinnati Water Works

## Boone Florence Water Commission

Maximum Allowed (MCL\*)

| Substance (Unit)                      | 2014 Report                                       | Miller Water (from the Ohio River) |                                   | Bolton Water (from the Great Miami Aquifer) |           |              |                                   |                     |           |              |
|---------------------------------------|---|------------------------------------|-----------------------------------|---|-----------|--------------|-----------------------------------|---------------------|-----------|--------------|
|                                       |   | Maximum Allowed (MCL*)             | Highest Compliance Level Detected | Range of Detections                         | Violation | Year Sampled | Highest Compliance Level Detected | Range of Detections | Violation | Year Sampled |
| Fluoride (ppm)                        | 4   | 4                                  | 0.98                              | 0.83 - 1.06                                 | No        | 2014         | 0.94                              | 0.82 - 1.01         | No        | 2014         |
| Nitrate (ppm)                         | 10  | 10                                 | 1.43                              | 0.65 - 1.43                                 | No        | 2014         | 1.39                              | 0.82 - 1.01         | No        | 2014         |
| THMs (ppb) [Trihalomethanes]†         | 80  | na                                 | 49.7                              | 12.6 - 53.8                                 | No        | 2014         | 49.7                              | 12.6 - 53.8         | No        | 2014         |
| HAAs (ppb) [Haloacetic Acids]†        | 60  | na                                 | 11.7                              | 4.80 - 14.0                                 | No        | 2014         | 11.7                              | 4.80 - 14.0         | No        | 2014         |
| Turbidity (NTU)                       | TT1 < 1 NTU Max and TT2 < 0.3 NTU 95% of the time | na                                 | 0.10                              | 0.03 - 0.10                                 | No        | 2014         | 0.10                              | 0.03 - 0.10         | No        | 2014         |
| Lead† (ppb)                           | AL = 15   | 0                                  | 9.8                               | na  | No        | 2014         | 9.8                               | na                  | No        | 2014         |
| Copper† (ppm)                         | AL = 1.3  | 1.3                                | 0.029                             | na  | No        | 2014         | 0.029                             | na                  | No        | 2014         |
| Total Organic Carbon                  | TT†   | na                                 | 2.11                              | 2.03 - 3.32                                 | No        | 2014         | 0.97                              | 0.92 - 1.00         | No        | 2014         |
| Total Chlorine (ppm)                  | MNDL=4  | na                                 | 0.97                              | 0.92 - 1.00                                 | No        | 2014         | 0.97                              | 0.92 - 1.00         | No        | 2014         |
| Total Coliform Bacteria† (% positive) | 5%  | 0                                  | 0.09%                             | nd  | No        | 2014         | 0.09%                             | nd                  | No        | 2014         |
| Barium (ppm)                          | 2   | 2                                  | 0.035                             | na  | No        | 2014         | 0.017                             | na                  | No        | 2014         |

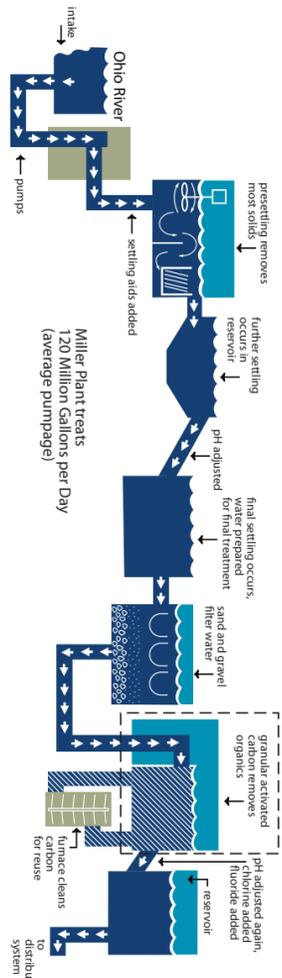
## UNREGULATED CONTAMINANTS

Substances for which EPA requires monitoring to determine where certain substances occur and whether it needs to regulate those substances.

| Substance (Unit)                    | 2014 Report | Miller Water |                     | Bolton Water |              |                     |               |              |      |
|-------------------------------------|-------------|--------------|---------------------|--------------|--------------|---------------------|---------------|--------------|------|
|                                     |             | MCLG*        | Range of Detections | Violation    | Year Sampled | Range of Detections | Violation     | Year Sampled |      |
| Chloroform (ppb)                    | 0           | 3.29         | na                  | na           | 2014         | 2.56                | na            | na           | 2012 |
| Bromodichloromethane (ppb)          | 0           | 4.67         | na                  | na           | 2014         | 5.50                | na            | na           | 2012 |
| Dibromochloromethane (ppb)          | 60          | 4.95         | na                  | na           | 2014         | 7.70                | na            | na           | 2012 |
| Bromodrom (ppb)                     | 0           | 0.73         | na                  | na           | 2014         | 5.58                | na            | na           | 2012 |
| Sulfate (ppm)                       | na          | 57           | 21 - 78             | na           | 2014         | na                  | na            | na           | 2013 |
| Chloride (ppb)                      | na          | 23           | nd - 41             | na           | 2013         | nd                  | nd            | na           | 2013 |
| Chromium (ppb)                      | 100         | nd           | nd - 0.56           | na           | 2013         | 0.29                | 0.24 - 0.33   | na           | 2013 |
| Hexavalent Chromium Dissolved (ppb) | na          | 0.071        | 0.048 - 0.096       | na           | 2013         | 0.210               | 0.2 - 0.22    | na           | 2013 |
| 1,4-Dioxane (ppb)                   | na          | 0.326        | nd - 0.575          | na           | 2013         | 0.545               | 0.276 - 0.814 | na           | 2013 |
| Molybdenum (ppb)                    | na          | 1.6          | 1.0 - 2.9           | na           | 2013         | 4.2                 | 3.5 - 4.9     | na           | 2013 |
| Strontium (ppb)                     | na          | 204          | 170 - 240           | na           | 2013         | 170                 | 160 - 180     | na           | 2013 |
| Vanadium (ppb)                      | na          | 0.26         | nd - 0.56           | na           | 2013         | 0.64                | 0.60 - 0.72   | na           | 2013 |

\* Data collected in 2014  
 † 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).  
 All other sample data was collected by Greater Cincinnati Water Works and can be referenced in the subsequent charts.

## The Treatment Process at the Miller Plant on the Ohio River



The major source of GCWW's water is the Ohio River which is treated at the Miller Plant. GCWW uses the latest treatment techniques in its state-of-the-art facilities. Granular Activated Carbon (GAC) treatment at Miller gives GCWW an edge in water quality management. Cincinnati pioneered the use of GAC treatment to remove organic contaminants from spills in the river. GAC also allows us to use substantially less chlorine in the treatment process. GCWW still has one of the largest GAC facilities in the U.S. (Backwash water from the sand filters and plant recycle water is returned to the beginning of the treatment process.)

The tables below show the substances detected in GCWW drinking water while performing the most up-to-date monitoring required by the EPA. The Ohio EPA requires us 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, call (513) 591-7700 and press "0".

| City of Florence (UCMR3) Unregulated Contaminant Monitoring Rule Detected Results |         |       |         |
|---|---------|-------|---------|
| MRL* (ppb)  | Minimum | Max   | Average |
| 1,4-dioxane   | BDL*    | 0.19  | 0.08    |
| vanadium  | 0.2     | BDL*  | 1.2     |
| molybdenum  | 1       | BDL*  | 4.7     |
| strontium   | 0.3     | 150   | 690     |
| chromium-6  | 0.03    | 0.047 | 0.08    |
| chlorate  | 20      | 45    | 91      |
| total chromium  | 0.2     | BDL*  | 0.79    |

\*Minimum Reporting Level  
 †Below Detection Level

## Important Information About Your Drinking Water

Our water system did violate a drinking water requirement in 2014. Even though this violation did not impact the quality of your drinking water, you have a right to know what happened and what we did to correct the issue.

The report you are reading, the Consumer Confidence Report, is to be certified and delivered to the Kentucky Division of Water and our customers by July 1st of each year. In 2014 this report was received at the Kentucky Division of Water Offices on July 7th. This resulted in a violation. As a result of this violation our system has taken the necessary steps to ensure that any reports that are to be submitted to the Kentucky Division of Water are received by them prior to any due date.

## Monitoring Data for Unregulated Contaminants

The City of Florence is committed to protecting public health and meets or surpasses all state and federal health standards for drinking water. To help advance the science of drinking water, we have been collecting data on several currently unregulated contaminants. Since June of 2013 and up to March of 2014, the City of Florence has been collecting data on various unregulated contaminants. The purpose of this monitoring is to gather data to support the Environmental Protection Agency (EPA) in making decisions regarding whether or not to regulate these certain contaminants in the future. These substances do not have Maximum Contaminant Levels. Instead, results are reported to the Minimum Reporting Levels (MRL). The City of Florence monitored the distribution system for 21 unregulated substances. The seven substances in the table below were detected.