



# 2016 Drinking Water Quality Report

published Spring 2017

This report is produced for you as a requirement of the Federal Safe Drinking Water Act.

*NOTE:* Industrial and commercial customers, including hospitals, medical centers and health clinics, please forward this report to your Environmental Compliance Manager.

PWD's Public Water System Identification #PA1510001

## Table of Contents

- 2 Sharing This Report
- 2 People with Special Health Concerns
- 3 A Message from the Philadelphia Water Department's Commissioner
- 4 Where Does Philadelphia's Drinking Water Come From?
- 5 Safeguarding the Water You Drink
- 6 Lead in Drinking Water
- 9 Partnership for Safe Water
- 10 Pharmaceuticals and Source Water
- 10 Cryptosporidium and Giardia
- 11 Schuylkill and Delaware River Source Water Protection Plans
- 12 Water Treatment Diagram
- 14 Monitoring Water Quality: What Do We Look For?
- 15 Glossary
- 16 2016 Drinking Water Quality Results
- 19 Free rain barrels? Rain Check is that... and so much more
- 20 Fairmount Water Works: Innovation and Education Continues...
- 22 Clean Water Begins and Ends with You

### Sharing This Report

Please share this report with all people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools and businesses). You can do this by posting this notice in a public place or distributing copies by hand and mail.

To receive a printed copy of this report, please email: [waterquality@phila.gov](mailto:waterquality@phila.gov).

Para obtener una copia del informe en Español sobre los resultados más recientes de la calidad del agua publicado por el Departamento de Agua de Philadelphia, llame al 215.685.6300.

### People With Special Health Concerns

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 and 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.

U.S. Environmental Protection Agency (EPA)/Centers for Disease Control (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.

## A Message From the Philadelphia Water Department's Commissioner

Every year brings challenges and successes, and 2016 demonstrated that the Philadelphia Water Department (PWD) is a strong organization, thanks to our over 2,000 dedicated employees.

This report, published in the spring of 2017, includes water quality information for the 2016 calendar year. The EPA requires all water utilities to produce and distribute water quality reports on an annual basis. We take this opportunity to introduce you to a variety of programs and operations that ensure the holistic stewardship of our drinking water sources — the Schuylkill and Delaware rivers.

The water that leaves our treatment plants is better than what is required by the U.S. Environmental Protection Agency (EPA). Our water is monitored 24 hours a day, 7 days a week to ensure that it consistently remains of the highest quality. Our team of experienced scientists and engineers test and treat our water for nearly 100 chemicals, and this annual Drinking Water Quality Report explains what we look for, and what we found.

We hope you take the time to look at all the information in this report. We value our relationship with you, our customers, so please contact us if you have any questions.

PWD's drinking water quality is better than all drinking water standards developed by the EPA to protect public health.



Debra McCarty  
Water Commissioner

### The Philadelphia Water Department is an active member of:

American Water Resources Association

American Water Works Association

Partnership for Safe Water

American Public Works Association

Association of Metropolitan Water Agencies

Clean Water American Alliance

National Association of Clean Water Agencies

Partnership for the Delaware Estuary

Schuylkill Action Network

Schuylkill River Restoration Fund

Tookany/Tacony-Frankford (TTF) Watershed

Partnership

U.S. Water Alliance

Water Environment Federation

Water Environment Research Foundation

Water Research Foundation

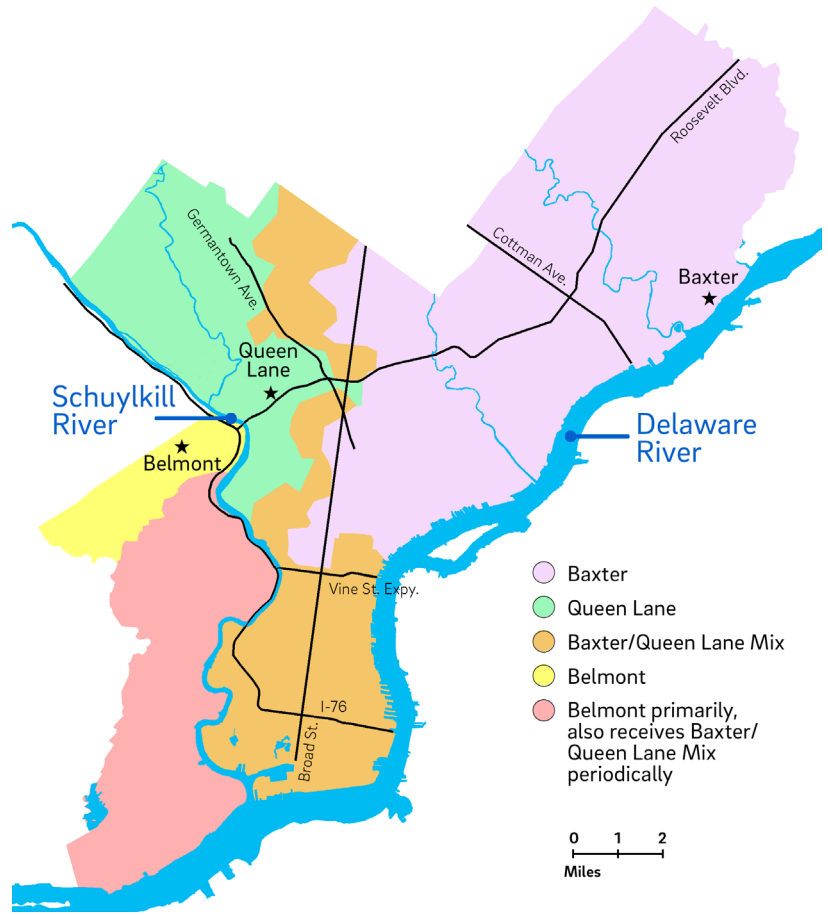
## Where Does Philadelphia's Drinking Water Come From?

Philadelphia's water comes from the Schuylkill and Delaware rivers. Each river contributes one-half of the City's overall supply and approximately 250 million gallons of high-quality drinking water is produced for our customers on a daily basis.

Rivers are surface water supplies. Philadelphia does not use groundwater.

The Philadelphia Water Department (PWD) has three water treatment plants that process untreated river water. Depending on where you live, you receive drinking water from one of these three plants.

The Queen Lane Plant is located in East Falls and its water comes from the Schuylkill River; its intake is located along Kelly Drive. The Belmont Plant is located in Wynnefield and its water also comes from the Schuylkill River; its intake is located along Martin Luther King Jr. Drive. The Baxter Plant is located in Torresdale and its water comes from the Delaware River; its intake is located at the plant on the Delaware River.



Philadelphia is located in the Delaware River Watershed, which begins in New York State and extends 330 miles south to the mouth of the Delaware Bay. The Schuylkill River is part of the Delaware River Watershed.

## Safeguarding The Water You Drink

### How Do Drinking Water Sources Become Polluted?

Across the nation, rivers, lakes, streams, ponds, reservoirs, springs and wells are sources of drinking water (both tap water and bottled water). Rain and melting snow travels over the surface of the land or through the ground, dissolving naturally occurring minerals and picking up substances resulting from animal and human activity and carrying these pollutants to our drinking water sources.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals can be naturally occurring or come from urban stormwater runoff (streets and parking lots), industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, are byproducts of industrial processes and petroleum production. They can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants can be naturally occurring or can come from oil and gas production, mining activities or medical use.



Today, Philadelphia enjoys watersheds that are cleaner and healthier than they have been in well over a century.

At their sources, the Delaware and Schuylkill Rivers are generally clean. But as the rivers flow downstream, they pick up contaminants from many sources — stormwater runoff washes pollutants on the land into the rivers, and communities and industries discharge used water back into the rivers. Today, Philadelphia enjoys watersheds that are cleaner and healthier than they have been in well over a century. Although we have seen a dramatic improvement in the water quality of the City's two major rivers since the passage of the Federal Clean Water Act in the early 1970s, there is still more work that needs to be done to protect our drinking water sources from pollution.

In order to assure that tap water is safe to drink, EPA and DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP 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, 800.426.4791, or from their website: [www.epa.gov/safewater](http://www.epa.gov/safewater).

## Lead in Drinking Water

### PA DEP Guidance

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 material and components associated with service lines and home plumbing. The Philadelphia Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. If you haven't turned on your tap for several hours, you can minimize the potential for lead exposure by flushing your tap before using water for drinking and 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 (800.426.4791) or at: [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### The drinking water delivered to your home meets all state and federal water quality standards.

Our water mains are not made of lead. However, some homes built before 1950 may have **service lines** made from lead.

While lead was once a common building material, today we know lead is harmful to everyone. Pregnant women, infants, children under the age of six and adults with high blood pressure and kidney problems are at the most risk.

*Lead can also be found in older brass fixtures and valves and in old solder, where pipes are joined.*

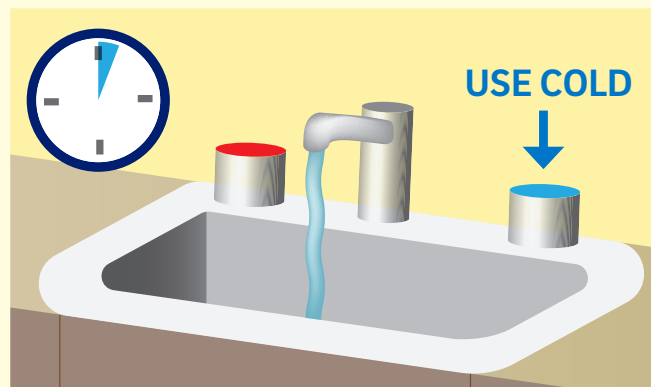
**Service Line:** *This pipe connects home plumbing to the water main in the street, and is the responsibility of the homeowner.*



### Whether you have lead pipes or not, all households should follow the tips below.

#### Instructions for daily pipe flushing

If you have not used your water for a few hours, turn on the cold water faucet at the sink that you drink from, and let the water run for **three to five minutes**.



**Why Flush?** It's good to avoid drinking water that has been sitting in your home's pipes for several hours.

- Never drink hot water from the tap, or use that water for cooking. Water heaters aren't made for drinking water.
- Clean **aerators** (also called screens) to remove debris from any taps used for drinking water.

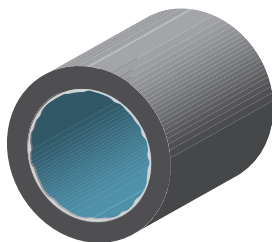
## How We Manage Lead

We continuously monitor drinking water to make sure our treatment helps to keep lead out of water in buildings with lead plumbing. As a part of our testing efforts, we ask Philadelphia households with lead water pipes to participate in our free tap water sampling program.

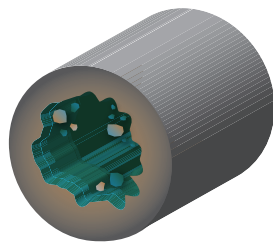
Every three years, PWD samples at least 50 homes with lead plumbing and tests the water for lead levels. These samples are a required part of the EPA's Lead and Copper Rule, which was created in 1992 to make sure that our corrosion control treatment is working.

Our corrosion control program, as mandated by federal law and optimized over the past two decades, minimizes the release of lead from service lines, pipes, fixtures, and solder by creating a coating designed to keep lead from leaching into the water.

To date, sampling results show that our treatment is controlling corrosion in our customers' plumbing.



*With corrosion control*



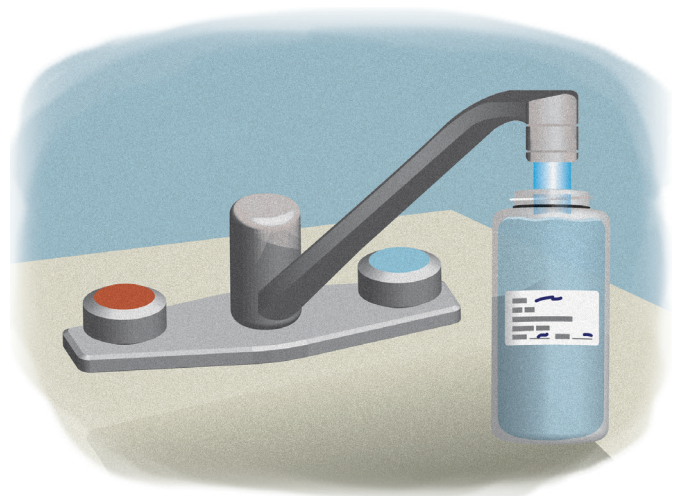
*Without corrosion control*

## Lead Testing: July – December 2016

The Philadelphia Water Department conducted a lead testing program from July through December 2016 independent of its normal regulatory sampling requirements. PWD consulted with the EPA and PADEP on the design and timeline of the testing with the intent of going above and beyond existing sampling requirements.

In this round of lead testing, PWD obtained samples from 68 homes with lead service lines. One out of the 68 homes sampled had a result higher than the EPA action level of 15 ppb. Ninety percent (90%) of customer's homes tested was less than 3 ppb.

Regulatory Sampling was completed most recently in 2014 and results can be found on page 16. The next round of regulatory sampling will take place in 2017.



**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 on PWD's website at [www.phila.gov/lead](http://www.phila.gov/lead) or from the Safe Drinking Water Hotline **1.800.426.4791**, or at: [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead)

## Lead in Drinking Water *(continued)*

In 2016, PWD increased efforts to educate customers about lead in drinking water and also introduced new programs to help replace lead service lines:



### Service line replacement during water main replacement work

When the Philadelphia Water Department replaces a water main, we will also replace any lead service line from the main all the way to the customer's meter. This will be done at no cost to the customer, but permission is needed to complete this valuable service.

All customers on blocks where water main replacement is scheduled will receive a letter approximately six months before construction work begins. In addition to alerting customers about construction, this letter lets them know their service line will be inspected for lead.

If you think water main work is being done on your street and you did not get any notification about service lines or flushing, please call our hotline at 215.685.6300.



### Let's learn about lead: Community Organization Presentations

The Philadelphia Water Department offers a 30-minute presentation about our programs and lead safety for Registered Community Organizations and civic associations. Our goal is to empower customers to address any issues with lead plumbing in their homes.

Educational materials, such as fact sheets and instructions for maintaining home plumbing, can be translated into a variety of languages to meet the needs of community members.

**To schedule a presentation, interested organizations can call us at 215.685.6300 or email: [waterinfo@phila.gov](mailto:waterinfo@phila.gov).**



### Updated website

[www.phila.gov/water/lead](http://www.phila.gov/water/lead)

Our website provides information about all Philadelphia Water Department efforts to assist and educate customers about lead in drinking water. *You will find:*

1. Options for getting water tested
2. How to check for lead pipes
3. Daily flushing tips to ensure fresh water
4. Tips on maintaining household plumbing
5. The most recent lead sampling results



### HELP Loan for Lead Service Line Replacement

In the City of Philadelphia, water service lines are the responsibility of the homeowner. If you have a water service line made of lead and want to replace it, you may qualify for the Homeowner's Emergency Loan Program (HELP). HELP is a zero-interest loan for replacement of a lead service line, payable over a sixty-month (60) period.

### HELP Loan Eligibility Guidelines:

- The property must be a residential dwelling and cannot have any more than four units.
- The applicant cannot be delinquent on their monthly water bill(s) for more than two (2) billing cycles. If there is an arrearage, the payment agreement with the Water Revenue Bureau must be current for at least six (6) months.
- The property must have an operable water meter.



## Partnership For Safe Water

The Philadelphia Water Department (PWD) consistently produces high quality drinking water, achieving Partnership for Safe Water quality standards that are far stricter than state and federal water quality regulatory requirements. The Philadelphia Water Department voluntarily adopted the stricter water treatment quality goals as a member of the Partnership for Safe Water in 1996. The average turbidity level (measure of water clarity) of Philadelphia's drinking water has been at or below 0.06 nephelometric turbidity units (NTU) since 1998.

The average turbidity of Philadelphia's drinking water in 2016 is 82 percent lower than the maximum of 0.30 NTU allowed by state and federal regulations and is 47 percent less than the Partnership for Safe Water maximum turbidity goal of 0.10 NTU.

In 2013, the Baxter, Queen Lane and Belmont Water Treatment Plants were honored by EPA and PADEP with the Partnership for Safe Water 15-Year Director's Award in recognition of the Philadelphia Water Department's (decade) long commitment to achieving and maintaining the highest possible drinking water quality.

The Water Department extended its participation in the Partnership for Safe Water initiative by becoming a charter member in the new Distribution System Optimization Program in 2015. This self-assessment initiative extends our focus from the treatment process to ensuring delivery of high quality water by maintaining distribution system integrity.

The Partnership for Safe Water is a voluntary optimization program conceived and initiated by the EPA, the American Water Works Association, the Association of Metropolitan Water Agencies and advocated by the Pennsylvania Department of Environmental Protection. Pennsylvania leads the nation in participation in this program and the Philadelphia Water Department is one of Pennsylvania's leaders.



### Why is chlorine used to disinfect the drinking water?

State and federal laws require the disinfection of all public water supplies. EPA and health agencies recognize that using chlorine is one of the most effective ways to protect public health from disease-causing organisms that can be found in rivers and streams. However, chlorine can chemically react with natural materials in rivers to form disinfection by products, such as trihalomethanes and haloacetic acids. We have been adjusting our treatment process over the years to reduce this chemical reaction, but we also ensure that the treated water that is distributed through the City's water mains to your homes has a "chlorine residual." This residual continues to protect your water against bacteria and other organisms on its journey to your home's tap. We use sodium hypochlorite, a safer form of chlorine similar to household bleach, to disinfect the water at our treatment plants.

## Pharmaceuticals and Source Water

Pharmaceuticals get into drinking water because people use both prescription and over-the-counter medications. Only a portion of these substances is absorbed into the bloodstream. The rest is excreted by the body, making its way through wastewater treatment plants and back into the waterways that serve as our drinking water sources.

You can help keep unused pharmaceuticals out of the water supply by paying attention to how you dispose of unused medications. Look for take-back programs that may be established near you. The Drug Enforcement Agency (DEA) sponsors national take-back programs in coordination with State and local law enforcement agencies.

National take-back programs provide opportunities for the public to surrender expired, unwanted or unused pharmaceuticals and other medications to law enforcement officers for proper disposal. To find out about future take-back events, visit DEA's website at [www.deadiversion.usdoj.gov/drug\\_disposal/takeback](http://www.deadiversion.usdoj.gov/drug_disposal/takeback).

### Properly Dispose Of Your Medications At Home!



#### Protect Your Info

Peel off the label, or cross out all your personal information with a marker.



#### Seal the Meds

Put the pills or liquids in another container, then cover with items like coffee grounds or kitty litter.



#### Trash It!

Toss sealed meds in your household trash.

To learn more about pharmaceuticals and drinking water, view the short instructional video developed by PWD and the Philadelphia chapter of Physicians for Social Responsibility: [www.vimeo.com/78005190](http://www.vimeo.com/78005190)

## Cryptosporidium and Giardia

***Cryptosporidium* and *Giardia* are microscopic organisms found in rivers and lakes throughout the United States.**

If ingested, *Cryptosporidium* and *Giardia* can cause diarrhea and abdominal cramps. However, these are also symptoms of intestinal diseases caused by many bacteria, viruses and parasites.

Most healthy individuals can overcome such illnesses within a few weeks; however, immuno-compromised individuals are at a greater risk of developing a life-threatening illness and are encouraged to consult with their doctors about taking appropriate precautions to avoid infections.

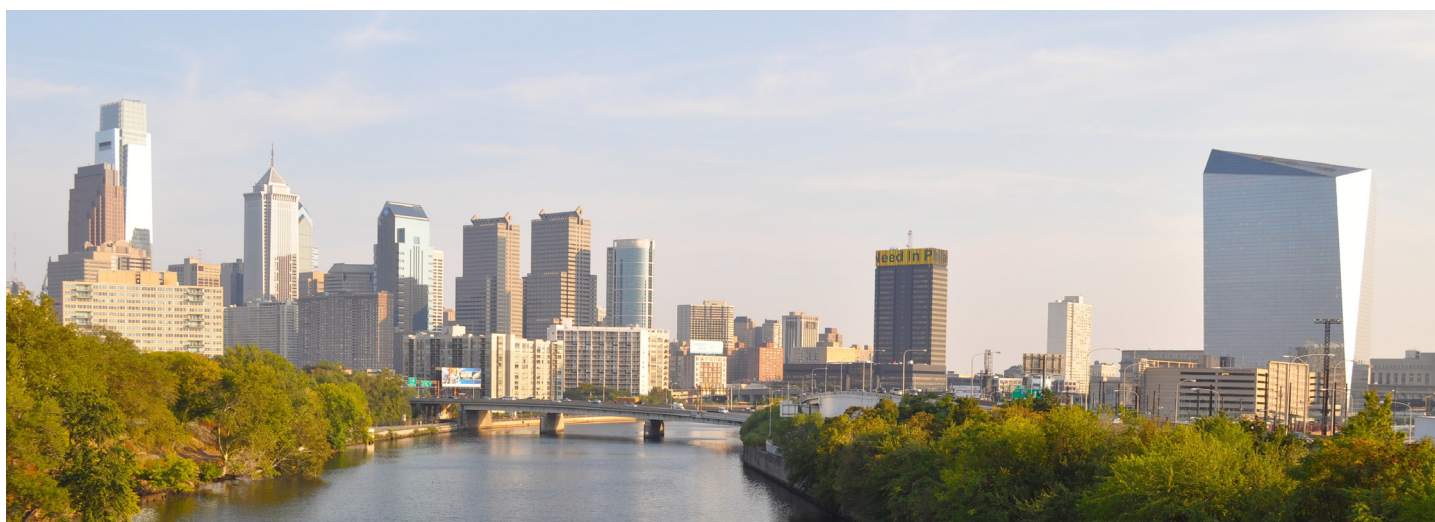
PWD carefully monitors water treatment processes and works closely with the Philadelphia Department of Public Health to ensure that our tap water is free of pathogens that can be found in rivers. The Department of Public

Health monitors local hospital records in real time for symptoms consistent with waterborne illnesses and would contact PWD if there were any concerns that the drinking water may be contributing to illnesses.

The Philadelphia Water Department is one of the nation's leaders in *Cryptosporidium* research and was one of the first utilities in the U.S. to monitor for the organism. The Philadelphia Water Department manages a source water protection program that looks at protecting the rivers in the City as well as farther upstream of Philadelphia. PWD continues source water *Cryptosporidium* research, in collaboration with Lehigh University. By identifying sources of *Cryptosporidium* in the watershed, PWD is taking a proactive approach in improving our rivers' water quality. Please refer to page 16 for results from 2016 *Cryptosporidium* monitoring.

## Schuylkill and Delaware River Source Water Protection Plans

The Schuylkill and Delaware River Source Water Protection Plans provide a comprehensive framework for implementing a watershed-wide effort to improve source water quality and quantity. The plans prioritize and outline several approaches to reduce sources of contamination to Philadelphia's raw water supply. PWD has made exceptional progress accomplishing these goals. We've established the Schuylkill Action Network, a regional partnership in the Schuylkill River Watershed, and have prioritized land for permanent protection. PWD also advocates for policies to protect and preserve our source waters and forested lands and collaborates with the Commonwealth of Pennsylvania to ensure regulations are enforced for wastewater treatment plants and industries that discharge upstream of Philadelphia. Philadelphia's program is nationally recognized and, most recently, has been included as an exemplary case study of source water protection in published AWWA industry standards.



Progress has been made addressing potential threats to our water supply within Philadelphia's own boundaries. Educational campaigns promoting proper disposal of unused pharmaceuticals and outreach efforts to mark storm drains in the City that drain directly to surface waters demonstrate the relationship between river water quality and drinking water quality. Projects like improved stream buffers in Fairmount Park and goose deterrent programs at local schools and parks reduce the amount of water quality contaminants entering our local waterways.

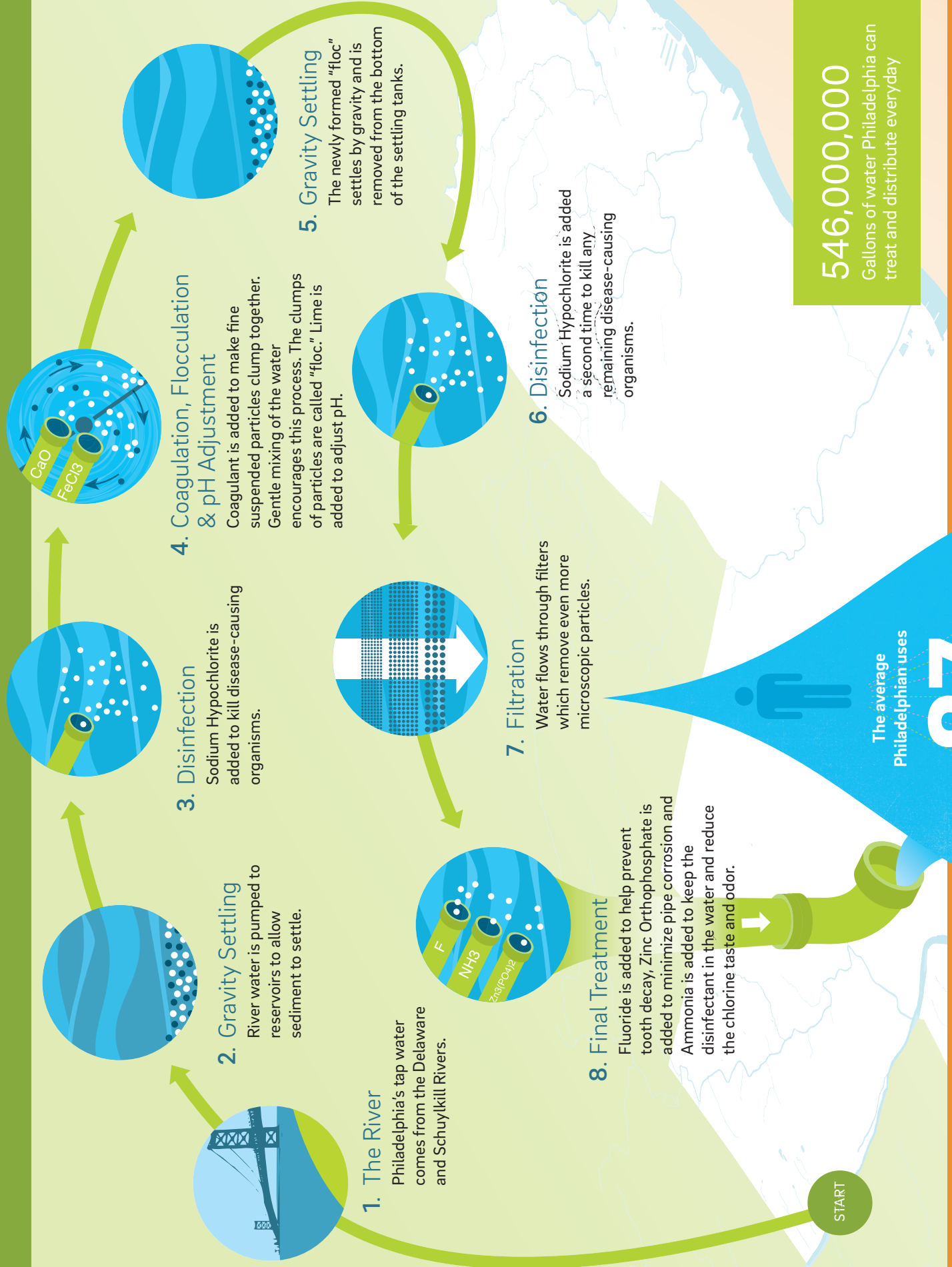
The Source Water Protection Program conducts research to improve the Philadelphia Water Department's knowledge of potential concerns to Philadelphia's water supplies. This research further defines our watershed protection priorities. Recent and on-going studies include analyzing flows needed to protect PWD's drinking water intakes on both the Schuylkill and the Delaware Rivers, evaluating upstream development policies and activities to ensure continued protection of our drinking water supply, tracking of major sources of human infectious pathogens such as *Cryptosporidium* and following water quality trends and climate change predictions.

In 2016, PWD completed its fourth year of implementation of a 5-year Watershed Control Plan to reduce *Cryptosporidium* in the Schuylkill River watershed. The Watershed Control Plan helps ensure PWD's compliance with the EPA's Long-Term 2 Enhanced Surface Water Treatment Rule at the Queen Lane Drinking Water Treatment Plant.

PWD has also made significant progress toward upgrading, expanding and improving upon the Delaware Valley Early Warning System (EWS), a mass communication network used to notify water suppliers and industrial users throughout the watershed of any spills or other water quality concerns via email and telephone. PWD continues to further enhance this system with advanced technological upgrades and improvements like a tidal spill modeling component that was a recipient of a 2015 Governor's Award for Environmental Excellence. In 2016, the EWS was featured in the EPA's online source water quality monitoring manual along with PWD's collaborative city-wide water resource monitoring program with the United States Geological Survey. PWD continues to work closely with the City's Office of Emergency Management and state and federal agencies to ensure that we are ready and able to respond to any water-related emergency event.

# How Do We Make Water Drinkable?

Like the majority of water utilities in the U.S., we use a multi-step treatment process at all three of our drinking water treatment plants. This Water Treatment Process diagram provides a brief description of drinking water treatment in Philadelphia.



# How Do We Process Wastewater?

After water is used, PWD is responsible for cleaning it before returning the water to the river. This is the Wastewater Treatment Process.

# 87

gallons of water per day

Shower  
20 Gal.

Washer  
17 Gal.

Toilet  
22 Gal.

Faucet  
13 Gal.

Dishwasher  
8 Gal.

Other  
7 Gal.

## 1. Collection & Pumping

Wastewater flows from homes by gravity and is pumped up to the treatment plant from underground.

## 2. Screening

Debris and trash are removed from the wastewater.

## 3. Grit Removal

Small debris, like sand and gravel, is removed by gravity.

## 4. Gravity Settling

Suspended solids settle to the bottom by gravity and oil and grease rise to the top.

1,000,000,000

Gallons of wastewater/stormwater Philadelphia can process a day

FINISH

## 8. Effluent Discharge

The treated water is returned to the river.

## 7. Disinfection

Sodium Hypochlorite is added to kill any remaining disease-causing organisms.

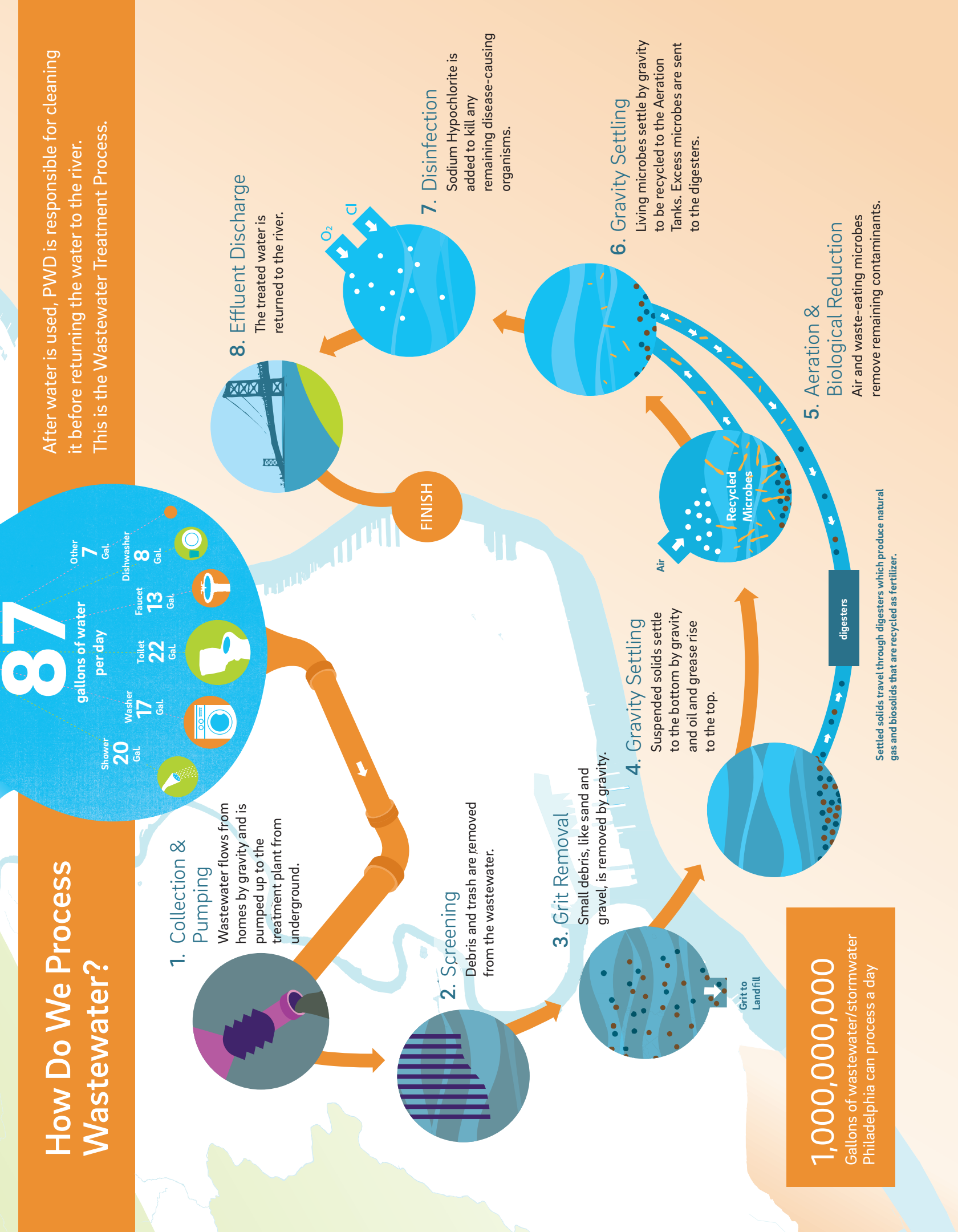
## 6. Gravity Settling

Living microbes settle by gravity to be recycled to the Aeration Tanks. Excess microbes are sent to the digesters.

## 5. Aeration & Biological Reduction

Air and waste-eating microbes remove remaining contaminants.

Settled solids travel through digesters which produce natural gas and biosolids that are recycled as fertilizer.



## Monitoring Water Quality: What Do We Look For?

Public Drinking Water Systems monitor their treated drinking water for approximately 100 regulated contaminants. These regulatory parameters are defined within Federal rules such as the Total Coliform Rule, Surface Water Treatment Rule, Disinfectants and Disinfection Byproducts Rules, Lead and Copper Rule and the Radionuclides Rule. We monitor for the regulated parameters listed below. Tables on the following pages summarize monitoring results for parameters found at detectable levels. Please refer to the glossary of terms and abbreviations for more information.

### Inorganic Chemicals:

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Nitrite, Selenium, Thallium

### Synthetic Organic Chemicals:

2,3,7,8 - TCDD (Dioxin), 2,4 - D, 2,4,5 - TP (Silvex), Alachlor, Atrazine, Benzopyrene, Carbofuran, Chlordane, Dalapon, Di(ethylhexyl)adipate, Di(ethylhexyl)phthalate, Dibromochloropropane, Dinoseb, Diquat, Endothall, Endrin, Ethylene Dibromide, Glyphosate, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl, PCBs, Pentachlorophenol, Picloram, Simazine, Toxaphene

### Volatile Organic Chemicals:

Benzene, Carbon Tetrachloride, 1,2-Dichloroethane, o-Dichlorobenzene, p-Dichlorobenzene, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Monochlorobenzene, Styrene, Tetrachloroethylene, Toluene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, o-Xylene, m,p-Xylenes

### Appealing to Your Senses

We also test for aluminum, chloride, color, iron, manganese, odor, pH, silver, sulfate, surfactants, total dissolved solids and zinc to ensure that your water meets all water quality aesthetic guidelines. This is so that your water looks, tastes and smells the way it should.

### Temperature and Cloudiness

The temperature of the Schuylkill and Delaware rivers varies seasonally from approximately 34 degrees to 91 degrees Fahrenheit. The Philadelphia Water Department does not treat the water for temperature. Cloudiness in tap water most commonly happens in the winter, when the cold water from the water main is warmed up quickly in household plumbing. Cold water and water under pressure can hold more air than warmer water and water open to the atmosphere. When really cold winter water comes out of your tap, it's simultaneously warming up and being relieved of the pressure it was under inside the water main and your plumbing. The milky white color is actually just tiny air bubbles. If you allow the glass to sit undisturbed for a few minutes, you will see it clear up gradually from the bottom up.

Parameters listed below are not part of EPA's requirements and are provided for information purposes.

SODIUM IN TAP WATER			
	Baxter WTP One Year Average	Belmont WTP One Year Average	Queen Lane WTP One Year Average
Average (ppm)	24 ppm	47 ppm	45 ppm
Average (mg in 8 oz. glass of water)	6 mg	11 mg	11 mg
Range (ppm)	17 – 39 ppm	28 – 76 ppm	30 – 60 ppm
Range (mg in 8 oz. glass of water)	4 – 9 mg	7 – 18 mg	7 – 14 mg

HARDNESS IN TAP WATER			
	Baxter WTP One Year Average	Belmont WTP One Year Average	Queen Lane WTP One Year Average
Average	92 ppm or 5 gpg	151 ppm or 9 gpg	166 ppm or 10 gpg
Minimum	82 ppm or 5 gpg	110 ppm or 6 gpg	133 ppm or 8 gpg
Maximum	100 ppm or 6 gpg	196 ppm or 11 gpg	217 ppm or 13 gpg

*Hardness defines the quantity of minerals, such as calcium and magnesium, in water. These minerals react with soap to form insoluble precipitates and can affect common household chores such as cooking and washing. Philadelphia's water is considered "medium" hard.*

ALKALINITY IN TAP WATER			
	Baxter WTP One Year Average	Belmont WTP One Year Average	Queen Lane WTP One Year Average
Average	40 ppm	72 ppm	70 ppm
Minimum	27 ppm	45 ppm	46 ppm
Maximum	57 ppm	102 ppm	94 ppm

## Glossary

Some of the words we use in the following charts may not be familiar to you. Here are definitions of technical and other terms.

**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. The action level is not based on one sample; instead, it is based on many samples.

**Alkalinity:** A measure of the water's ability to resist changes in the pH level and a good indicator of overall water quality. Although there is no health risk from alkalinity, we monitor it to check our treatment processes.

**E. coli (Escherichia coli):** A type of coliform bacteria that is associated with human and animal fecal waste.

**gpg (grains per gallon):** A unit of water hardness. One grain per gallon is equal to 17.1 parts per million.

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**mg/L (Milligrams per liter):** One milligram per liter is equal to one part per million.

**MRDL (Maximum Residual Disinfection Level):** The highest level of disinfectant that is allowed in drinking water. The addition of a disinfectant is necessary for the control of microbial contaminants.

**MRDLG (Maximum Residual Disinfection Level Goal):** The level of a disinfectant in drinking water 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.

**Minimum Residual Disinfectant Level:** The minimum level of residual disinfectant required at the entry point to the distribution system.

**NTU (nephelometric turbidity units):** Turbidity is measured with an instrument called a nephelometer. Measurements are given in nephelometric turbidity units.

**Pathogens:** Bacteria, virus, or other microorganisms that can cause disease.

**pCi/L (Picocuries per liter):** A measure of radioactivity.

**ppm (parts per million):** Denotes 1 part per 1,000,000 parts, which is equivalent to two thirds of a gallon in an Olympic-sized swimming pool.

**ppb (parts per billion):** Denotes 1 part per 1,000,000,000 parts, which is equivalent to half a teaspoon in an Olympic-sized swimming pool.

**µg/L (Microgram per liter):** One microgram per liter is equal to one part per billion.

**ppt (parts per trillion):** Denotes 1 part per 1,000,000,000,000 parts, which is equivalent to one drop in 20 Olympic-sized swimming pools.

**SOC (Synthetic Organic Chemical):** Commercially made organic compounds, such as pesticides and herbicides.

**Total Coliform:** Coliforms are bacteria that are naturally present in the environment. Their presence in drinking water may indicate that other potentially harmful bacteria are also present.

**THAAs (Total Haloacetic Acids):** A group of chemicals known as disinfection byproducts. These form when a disinfectant reacts with naturally occurring organic and inorganic matter in the water.

**TOC (Total Organic Carbon):** A measure of the carbon content of organic matter. This measure is used to indicate the amount of organic material in the water that could potentially react with a disinfectant to form disinfection byproducts.

**TTHMs (Total Trihalomethanes):** A group of chemicals known as disinfection byproducts. These form when a disinfectant reacts with naturally occurring organic and inorganic matter in the water.

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

**Turbidity:** A measure of the clarity of water related to its particle content. Turbidity serves as an indicator for the effectiveness of the water treatment process. Low turbidity measurements, such as ours, show the significant removal of particles that are much smaller than can be seen by the naked eye.

**VOC (Volatile Organic Chemicals):** Organic chemicals that can be either man-made or naturally occurring. These include gases and volatile liquids.

**WTP:** Water Treatment Plant

## 2016 Drinking Water Quality Results

Listed on pages 16 – 18 are our Drinking Water Quality Results for 2016. All results are better than the recommended federal levels designed to protect public health. By reporting these results in the tables below, we are meeting a requirement of the EPA. Please see the glossary on page 15 for definitions of abbreviations used in the tables. Some contaminants may pose a health risk at certain levels to people with special health concerns. Others are used as indicators for treatment plant performance. For more information, please visit our website at [www.phila.gov/water](http://www.phila.gov/water) or call us at 215.685.6300.

**LEAD AND COPPER** - Tested at Customers' Taps. Testing is performed every 3 years. Results shown are from 2014.

	EPA's Action Level - for a representative sampling of customer homes	Ideal Goal (EPA's MCLG)	90% of PWD customers' homes were less than	Number of homes considered to have elevated levels	Violation	Source
Lead	90% of homes must test less than 15 ppb	0 ppb	5.0 ppb	7 out of 134	No	Corrosion of household plumbing; Erosion of natural deposits
Copper	90% of homes must test less than 1.3 ppm	1.3 ppm	0.31 ppm	0 out of 134	No	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives

**CRYPTOSPORIDIUM** - Tested at Source Water to Water Treatment Plants Prior to Treatment.

Treatment Technique Requirement	Baxter WTP One Year Range	Belmont WTP One Year Range	Queen Lane WTP One Year Range	Source
Total Number of Samples Collected	24	24	24	Naturally present in the environment
Number of <i>Cryptosporidium</i> Detected	22	22	17	
	0.092 count/L	0.092 count/L	0.071 count/L	

*Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. The levels found in the rivers help to dictate the degree of control we must use.

**BACTERIA IN TAP WATER** - Tested throughout the Distribution System. Over 440 samples collected throughout the City every month.

	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Monthly % or Yearly Total of Positive Samples	Monthly Range (% or #)	Violation	Source
Total Coliform	5% of monthly samples are positive*	0	0.19%	0 – 0.19%	No	Naturally present in the environment
<i>E. coli</i>	0*	0	0	0	No	Human or animal fecal waste

\*Every sample that is positive for total coliforms must also be analyzed for *E. coli*. If a system has two consecutive total coliform positive samples, and one is also positive for *E. coli* then the system has an MCL violation. There were no Level 1 and Level 2 assessments required under Revised Total Coliform Rule in 2016.



## 2016 Drinking Water Quality Results

<b>INORGANIC CHEMICALS (IOC)</b> - PWD monitors for IOC more often than required by EPA.						
Chemical	Highest Level Allowed (EPA's MCL)	Ideal Goal (EPA's MCLG)	Highest Result	Range of Test Results for the Year	Violation	Source
Antimony	6 ppb	6 ppb	0.3 ppb	0 – 0.3 ppb	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Barium	2 ppm	2 ppm	0.047 ppm	0.028 – 0.047 ppm	No	Discharges of drilling wastes; Discharge from metals refineries; Erosion of natural deposits
Chromium	100 ppb	100 ppb	1 ppb	0 – 1 ppb	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride	2 ppm*	2 ppm*	0.75 ppm	0.71 – 0.75 ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	10 ppm	10 ppm	4.62 ppm	0.94 – 4.62 ppm	No	Runoff from fertilizer use; Leaching from septic tanks; Erosion of natural deposits

\*EPA's MCL and MCLG is 4 ppm, but PADEP has set this lower MCL and MCLG which takes precedence.

<b>TOTAL CHLORINE RESIDUAL</b> - Continuously Monitored at Water Treatment Plants.					
Sample Location	Minimum Disinfectant Residual Level Allowed	Lowest Level Detected	Yearly Range	Violation	Source
Baxter WTP	0.2 ppm	2.14 ppm	2.14 – 3.34 ppm	No	Water additive used to control microbes
Belmont WTP		1.12 ppm	1.12 – 2.76 ppm	No	
Queen Lane WTP		1.57 ppm	1.57 – 3.71 ppm	No	

<b>TOTAL CHLORINE RESIDUAL</b> - Tested throughout the Distribution System. Over 450 samples collected throughout the City every month.					
Sample Location	Maximum Disinfectant Residual Level Allowed	Highest Monthly Average	Monthly Average Range	Violation	Source
Distribution System	4.0 ppm	2.15 ppm	1.45 – 2.15 ppm	No	Water additive used to control microbes

## 2016 Drinking Water Quality Results

<b>TOTAL ORGANIC CARBON - Tested at Water Treatment Plants.</b>					
Treatment Technique Requirement	Baxter WTP One Year Range	Belmont WTP One Year Range	Queen Lane WTP One Year Range	Violation	Source
Percent of Removal Required	35%	25 – 35%	25 – 35%	n/a	Naturally present in the environment
Percent of Removal Achieved	10 – 66%	29 – 72%	30 – 63%	No	
Number of Quarters out of Compliance	0	0	0	No	
<i>PWD achieved TOC removal requirements in all quarters of 2016 at all WTPs. Compliance is based on a running annual average computed quarterly.</i>					

<b>TURBIDITY - A Measure of Clarity Tested at Water Treatment Plants.</b>					
	Baxter WTP	Belmont WTP	Queen Lane WTP	Violation	Source
Treatment Technique Requirement: 95% of samples must be at or below 0.300 NTU	100% below 0.300 NTU	100% below 0.300 NTU	100% below 0.300 NTU	n/a	Soil runoff, river sediment
Highest single value for the year	0.081 NTU	0.090 NTU	0.100 NTU	No	
<i>We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. PWD continuously operates and monitors water quality from a total of 160 filters at three drinking water treatment plants. In calendar year 2016, on two separate occasions, turbidity monitoring was interrupted on one of our filters and therefore we cannot be sure of the quality of the drinking water from this filter during that time. On October 21, 2016 for a 31 hour period the turbidity instrument on filter 27 at Queen Lane WTP was not recording data signals. On November 4, 2016, filter 14 at Queen Lane WTP was left in the hold position following a routine calibration check for an almost 16 hour period without the monitoring instrument activated. After each monitoring interruption, once the turbidimeter instruments were restored, subsequent monitoring showed no filter problems. During each single filter monitoring interruption, the combination flow from the plant filters at each facility was continuously sampled and monitored with no change in turbidity levels. No water quality emergency occurred due to the monitoring interruptions, and this notice is for informational purposes only.</i>					

<b>DISINFECTION BY-PRODUCTS</b>					
	Highest Level Allowed (EPA's MCL) - One Year Average	Running Annual Average 2016*	System Wide Range of Individual Results	Violation	Source
Total Trihalomethanes (TTHMs)	80 ppb	53 ppb	14 – 98 ppb	No	By-product of drinking water disinfection
Total Haloacetic Acids (THAAs)	60 ppb	44 ppb	15 – 89 ppb	No	By-product of drinking water disinfection
<i>*Monitoring is conducted at 16 locations throughout the City of Philadelphia. This result is the highest locational running annual average in 2016.</i>					

## Free rain barrels? Rain Check is that... and so much more

Each year, *Green City, Clean Waters* projects soak up millions of gallons of polluted stormwater runoff from parks, schools, streets and other public places. But with more than 1.5 million people and hundreds of thousands of homes in Philadelphia, residents like you can play a big role in keeping local waterways clean.



That's why we started Rain Check\*—the program most people associate with free rain barrels.

Launched in 2012, this program does indeed provide free rain barrels to Philly residents, with over 2,300 of the 55-gallon stormwater cisterns installed so far.

**Perhaps lesser known?** Rain Check also helps Philadelphia residents pay for beautiful landscaping that is specially designed to capture the water that falls on their properties during storms.

Are you interested in replacing an empty front yard with a garden? Need to fix a cracked rear patio? Trying to save water to use on your parched potted plants? Rain Check provided funding for these projects and more.

Native flowers in rain gardens or downspout planters, new permeable paver patios and rain barrels can all spruce up a property. But beyond looking good, each plays an important role in capturing stormwater that would otherwise contribute to sewer overflows that harm Philly's rivers.

Because of these water quality benefits, every Philadelphia resident can have a rain barrel installed at no cost, making them a favorite for those on a budget or with limited space. A step above the barrels (but still a steal at just \$100), our downspout planters also work well in tight areas and involve special container gardens connecting to gutter downspouts.

Other popular Rain Check projects include replacing hard surfaces like concrete patios with rain-absorbing permeable pavers or—one of our favorites—building flower-filled rain gardens.

On these large projects, **we contribute up to \$2,000** and set you up with Rain Check-certified, professional contractors who know how to get the most out of your space.

### Spotlight on Rain Gardens



We're happy to install any stormwater tool, but rain gardens truly make us weak in the knees. A rain garden is exactly what it sounds like—a garden designed to capture water when it rains.

And we love them for a few reasons.

For one, these gardens can capture lots of stormwater, while a rain barrel or downspout planter can only catch some of what falls. And, for all the stormwater they keep out of our sewers, they don't cost as much as other projects. Since we can cover a large part of the cost with Rain Check, that makes them a good deal for us and for property owners.

On top of protecting local rivers and creeks, these little pockets of native perennial plants can sculpt bland, flat spaces to provide beauty throughout the year while creating habitat for birds and important pollinator species like butterflies and bees.

**\*Interested?** Just attend one of our hour-long educational Rain Check workshops. Sign up at [www.phillywatersheds.org/raincheck](http://www.phillywatersheds.org/raincheck)

*Rain Check is implemented by PWD through a partnership with the Pennsylvania Horticultural Society and the Sustainable Business Network, both not-for-profit organizations.*

## Fairmount Water Works: Innovation and Education Continues...

In 2016, the Fairmount Water Works' (FWW) program and partner list has continued to grow, along with FWW's ability to transform children and adults into environmental ambassadors. The Fairmount Water Works provides family-friendly activities, on- and off-site guided public tours, and hands-on, minds-in, experiential lessons for pre-K through college-age students.

With the support of various partners, FWW has successfully implemented initiatives with public engagement, including but not limited to: Art in the Open, Seeing is Believing, The Freshwater Mussel Hatchery, and Art on the Circuit.

The Fairmount Water Works also continued to rebrand itself as a premier venue for small-scale private events such as lectures and cocktail receptions, raising needed revenue in support of specialized educational programs.



### Freshwater Mussel Hatchery

This project was made possible by generous support from the Pew Center for Arts & Heritage and PWD, with additional support from The McClean Contributionship, and in collaboration with the Partnership for the Delaware Estuary and The Academy of Natural Science of Drexel University. FWW was able to secure additional funding and support from the Pennsylvania Department of Conservation and Natural Resources for this 530-square-foot "living enclave." The Hatchery provides an opportunity for students in Philadelphia, and visitors to the Circuit, to participate and engage in a living laboratory, and develop an appreciation for, and connection to the river. The exhibit provides a critical public platform for education, interpretation, art, science and community outreach to build awareness and support for this sustainable approach to the health of our region's watersheds.

On February 16, 2017, partners, board members, and individuals instrumental in project development, visited the Water Works for a private preview of the Hatchery. FWW saw record numbers opening weekend, with more than 600 visitors coming to view the exhibition and aquatic field station. Come see the Hatchery for yourself during our normal operating hours, or visit [www.mightymussel.com](http://www.mightymussel.com) for more information.

*Every freshwater mussel is like a mini-water treatment facility, filtering pollutants from about 20 gallons of water per day, resulting in cleaner river water!*

**Visit Us:** People of all ages are invited to join us in discovering the wonders of water in our world.

Visit [www.fairmountwaterworks.org](http://www.fairmountwaterworks.org) or call 215.685.0723 for the latest program listings, tours, and events.

We also invite you to connect with us on Facebook, Twitter, and Instagram (@FairmountWW).

### Canoemobile 2016

The Fairmount Water Works education staff participated in Wilderness Inquiry's Canoemobile, a roving fleet of passenger Voyageur canoes with the mission of getting as many youth as possible paddling on their local urban waterways. On Tuesday, October 18, more than 200 students and staff from local elementary, middle and high schools participated in educational activities designed to increase their capacity as good watershed stewards, and provide an opportunity to experience, enjoy, and learn about the Delaware River and its tributaries. Students also signed a simple but powerful pledge: "We Share Our Waterways, We Pledge to Care for Our Waterways."

### Project FLOW (For the Love of Water)

This four-week, daily intensive summer program allows rising eighth- and ninth-grade students to explore water in an experiential and interdisciplinary way as artists, historians, scientists and social activists. Project FLOW provides an understanding of how individual and collective actions on the land affect the quality of water for all living things. Creating a clear path for young people and a call to action for civic responsibility and engagement is one of the chief objectives of the educational programming at the Fairmount Water Works and a major goal of Project FLOW. This past year, 13 participants (five boys and eight girls) came from schools throughout Philadelphia.

### Schuylkill Acts & Impacts

Schuylkill Acts & Impacts (SA and I) was a weeklong expedition from June 18–25 for a select group of 12 high school students from the 5 counties (Schuylkill, Berks, Montgomery, Chester, and Philadelphia) in the Schuylkill River watershed. Applicants were required to complete a short answer application and individual phone interviews. Students spent the week learning about different water quality impacts in the watershed such as abandoned mine drainage, agricultural runoff, and stormwater runoff. The students participated in hands-on chemical and biological testing of the water facilitated by environmental scientists from Stroud Water Research Center, engaged with environmental professionals throughout the watershed, and camped and kayaked. Take it Outdoors Adventures is the outfitter. SA and I is a partnership program with the Schuylkill Headwaters Association and supported in part by generous donations from area Watershed organizations, parents and in-kind donations from Wawa and Brown's Family ShopRite.



### Middle-years Teacher Fellowship Program

Launched in 2014, a \$500,000 grant from the William Penn Foundation enabled the Fairmount Water Works to create a three-year program to develop a new watershed curriculum. This cross-disciplinary, hands-on curriculum aligns urban watershed education with core NGSS Science and Common Core standards for Philadelphia school students in grades 6–8 and is available online at [www.resourcewater.org](http://www.resourcewater.org).

Fairmount Water Works led a four-day professional development training workshop in August 2016 supported in part by a grant from the Department of Environmental Protection. The goal of the workshop was to give teachers the tools and the knowledge to pilot the middle years curriculum, Understanding the Urban Watershed, with students. Participants had a chance to explore the first two thematic units from Understanding the Urban Watershed (Water in Our World and Drinking Water and You). Material kits were subsequently provided to support classroom teaching. During the professional development session, teachers were offered rich content background on urban waterways and drinking systems. Two field trips complemented the units – one in the creek led by the Wissahickon Environmental Education Center educators and a guided tour of the drinking water process at Belmont Treatment Plant. The following schools were represented: Masterman Middle School, Richard Allen Charter School, Dobson School, Fidler School, Finletter School, and Bregy Elementary. Teachers received additional support throughout the year as needed, and field trips to Fairmount Water Works as requested.

## Clean Water Begins and Ends With You

### Don't Pollute!

Always recycle or dispose of household hazardous wastes properly. Don't pour motor oil, antifreeze or other toxic materials down storm drains, which connect to the city's sewer system.

Water that enters our storm drains often flows directly to our local streams and rivers. Recycle these household hazardous materials safely and help protect our waterways. Don't flush paint thinners, insect sprays, herbicides and other harmful chemicals down the toilet or put them down the sink. Contact the Streets Department to get a schedule of their Household Hazardous Materials Drop-off Events where you can dispose of these materials safely without polluting your drinking water supply.

### We welcome your ideas and opinions

We participate in nearly 200 public and community events a year, including presentations made at schools, on-going educational programs and other environmental celebrations. We offer ways for individuals, families, students, seniors, community groups and others to participate in learning about protecting water.

### Get Involved

If you would like to help protect your water supply or watershed, please call the Philadelphia Water Department at 215.685.6300, visit our website at [www.phila.gov/water](http://www.phila.gov/water), or see Table 2 on page 23.

### Contact us

Philadelphia Water Department  
Aramark Tower  
1101 Market Street, 3rd Floor  
Philadelphia, PA 19107-2994

### Customer Information Hotline:

215.685.6300



### Important Telephone Numbers & Websites

#### Delaware River and Schuylkill River Source Water Assessments

[www.phillywatersheds.org/what\\_were\\_doing/documents\\_and\\_data/watershed\\_plans\\_reports](http://www.phillywatersheds.org/what_were_doing/documents_and_data/watershed_plans_reports)

#### Fairmount Water Works

215.685.0723

[www.fairmountwaterworks.org](http://www.fairmountwaterworks.org)

#### Philadelphia Streets Department

215.686.5560

[www.philadelphiastreet.com](http://www.philadelphiastreet.com)

#### Philadelphia Water Department

215.685.6300

[www.phila.gov/water](http://www.phila.gov/water)

#### RiverCast

[www.phillyrivercast.org](http://www.phillyrivercast.org)

#### Schuylkill Action Network

800.445.4935

[www.schuylkillwaters.org](http://www.schuylkillwaters.org)

#### U.S. Environmental Protection Agency

##### Safe Drinking Water Hotline

800.426.4791

[www.epa.gov/water](http://www.epa.gov/water)

#### Water Revenue Bureau

215.686.6880

[www.phila.gov/revenue](http://www.phila.gov/revenue)

**Table 1: Who To Call To Report Various Situations**

Situation	Who to Call	Phone
Dead Fish	Fish & Boat Commission PADEP	717.626.0228 484.250.5900
Illegal Dumping & Related Pollution Activities	PADEP PWD	484.250.5900 215.685.6300
Sewage Spills	PADEP PWD	484.250.5900 215.685.6300
Oil & Gas Spills/Accidents	PADEP PWD	484.250.5900 215.685.6300

**Table 2: Places To Go To Get Involved In Protecting Your Local Streams, Rivers And Water Supply**

Organization	Activity Type	Phone	Website
Environmental Alliance for Senior Involvement	A, C, E, P, T	203.779.0024	www.easi.org
Friends of Fox Chase Farms	A, C, E, P	215.728.7900	www.foxchasefarm.org
Friends of the Manayunk Canal	A, C, E, P, T	N/A	www.manayunkcanal.org
Friends of Pennypack Park	A, C, E, P, T	215.934.PARK (7875)	www.friendsofpennypackpark.org
Friends of the Wissahickon	A, C, E, P, T	215.247.0417	www.fow.org
Lower Merion Conservancy	A, C, E, P, T	610.645.9030	www.lmconservancy.org
Partnership for the Delaware Estuary	A, B, C, E, P, S, T	800.445.4935	www.delawareestuary.org
Philadelphia Anglers Club	A, C, E, F	N/A	www.philadelphiaanglersclub.com
Philadelphia Canoe Club	F, R	215.487.9674	www.philacanoec.org
Schuylkill Action Network	A, B, C, E, L, P, T	800.445.4935x109	www.schuylkillwaters.org
Schuylkill Banks	B, E, L	N/A	www.schuylkillbanks.org
Schuylkill Center for Environmental Education	A, B, C, E, P, T	215.482.7300	www.schuylkillcenter.org
Senior Environment Corps	A, C, E, P, T	215.848.7722	www.centerinthepark.org
Tookany/Tacony-Frankford (TTF) Watershed Partnership	A, C, E, P, T	215.744.1853	www.ttfwatershed.org
U.S. Water Alliance	A, B, E	202.789.7751	www.uswateralliance.org
Wissahickon Restoration Volunteers	A, C, E, P, T	215.798.0044	www.wissahickonrestorationvolunteers.org
Wissahickon Valley Watershed Association	A, C, E, P, T	215.646.8866	www.wvwa.org

**Activity Types**

A: Environmental activism

B: Business-related protection and educational activities

C: Clean-up of trash and litter

E: Environmental education

F: Fishing or fish recreation activities

L: Land conservation and management

P: Planting trees and streambank repair/protection

R: Rowing, canoeing and related boating activities

S: Storm drain marking

T: Water quality testing



**PHILADELPHIA**  
**WATER**  
— DEPARTMENT —

**Philadelphia Water Department**

1101 Market Street

Philadelphia, PA 19107

215.685.6300

[www.phila.gov/water](http://www.phila.gov/water)