



Conserving Water with Local and Regional Programs

During 2016, North City Water District purchased 604 million gallons of water, with an unaccounted water rate of 5.9% throughout our distribution system.

The Saving Water Partnership (SWP)—which is made up of North City Water District and 18 other water utility partners—is still on target with its six-year conservation goal to reduce per capita use to less than 105 mgd average annually from 2013 through 2018, once again meeting the goal with 94.4 mgd in 2016, despite unprecedented population growth for the past three years, and a relatively warm, dry summer. This was due in no small part to our customers' participation in the following events and programs:

- 43 classroom presentations about water;
- 25 households within our district boundaries took advantage of the single family toilet rebate program;
- One single family household received a rebate for installing an irrigation timer;
- Over 75 people learning water-wise gardening tips at our Savvy Gardener classes (held in Fall and Spring);
- Over 2,000 people visiting our Water Education Booths—held at Shoreline Science (STEM) Festival, North City Jazz Walk, Ridgecrest's Ice Cream Social, Celebrate Shoreline Festival, and YMCA's Healthy Kids Day (above photo)—where kids measured the amount of sugar in a variety of different drinks, and parents were surprised to "see" how much sugar was in all those drinks.

Our Board of Commissioners has been discussing water conservation goals for 2019-2028, both regionally and at Board meetings. Discussions have included expanding the youth education programs, providing more technical assistance to use water wisely, and other potential opportunities. Stay tuned!

Low Income Rebates Available

North City Water District is offering a rate reduction to eligible low-income persons. Qualified applicant's water bill base rate will be reduced by \$10 every billing period. Total household income from all sources in 2016 must not exceed the "very low income limits" set annually by HUD for the Seattle area. Limited to the first 150 Single Family Residential customers. Download the application from our website at www.northcitywater.org/forms or stop by our office for assistance!

More About Water Quality

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. In Seattle's surface water supplies, the potential sources of contamination include:

- Microbial contaminants, such as viruses, bacteria, and protozoa from wildlife;
- Inorganic contaminants, such as salts and metals, which are naturally occurring; and
- Organic contaminants, which result from chlorine combining with the naturally occurring organic matter.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency and/or the Washington state board of health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and/or the Washington state department of agriculture regulations establish limits for contaminants in bottled water that 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 Environmental Protection Agency's Safe Drinking Water Hotline at 800.426.4791.

We at North City Water District encourage public interest and participation in the decisions that affect our drinking water. If you would like to learn more about our water, have questions about its quality, or would like to know what you can do to help keep our water supply clean, safe and abundant, please don't hesitate to contact us at 206.362.8100, or visit one of our Board of Commissioners meetings (every first and third Tuesday of each month at 3:00 pm) at our District office, or you can contact any one of the following organizations:

Seattle Public Utilities
Phone: 206.684.3000
Website: http://www.seattle.gov/util/MyServices/Water/Water_Quality

United States Environmental Protection Agency (EPA) and the Safe Drinking Water Hotline
Phone: 800.426.4791
Website: <http://www.epa.gov/safewater>

Washington State Department of Health (DOH):
Phone: 800.521.0323
Website: <http://www.doh.wa.gov/ehp/dw/>



Project Updates

North City Pump Station

We have often referred to our new Pump Station as the "heart of our system," because it is designed to function much like a human heart—pumping blood (water) through the body (our water system) while maintaining adequate pressure. As of this publication, we're nearly ready to announce that our new and improved "heart" will be coming online any day now. When water begins flowing through it, we'll be able to proceed with the final steps, including demolishing the old pump station, moving the existing generator to its final new location, and cleaning up the site. Your new North City Pump Station will help water flow more efficiently throughout our system, whether you live in the Ballinger neighborhood, or along the shores of Lake Washington in Sheridan Beach.

Water System Computer Model

As soon as the Pump Station is complete, you may notice some of our crews working evening hours to test fire hydrant water pressure throughout our system. This information will be added to our hydraulic model, which will enable us to update and confirm water demands throughout our system. The purpose of an updated Water System Computer Model is to provide a more accurate reading of water pressure at any point in our system. Backed by the new SCADA system we installed in 2014/2015, and our new electromagnetic flow meters installed in 2014, this computer-calibrated model helps us operate our system more efficiently: we can identify what needs to be changed or improved (and how best to do it), predict what happens if we need to shut down a line, and know exactly how to get water to all residents during such an event. It also helps us estimate the flow of water pressure in the event of a fire anywhere in our system. All of these factors will enable us to provide the most accurate Capital Improvement Plan for years to come.

New Maintenance Building

After selecting Wagner Architects through a formal RFP process, North City Water District is now working with them on a Site and Facility Master Plan (see the rendering below) to identify the best way to redevelop the former Northwest Church site for our needs. We have identified a preferred development option, recently applied for a Special Use Permit, and held our first Public / Neighborhood Meeting to gather input. If all goes according to plan, we hope to begin facility design later this year! Feel free to call 206.362.8100 if you have any questions.



Third Year: Annual Customer Survey

Take the Water Conservation Survey on the Saving Water Partnership website and enter to win a free home water and energy-saving kit!

Go to: www.savingwater.org

2016 ANNUAL REPORT of DRINKING WATER QUALITY

Issue 2: April • May • June 2017

A newsletter for water-related issues and info Serving the communities of Shoreline and Lake Forest Park since 1931

From Our Board...

by Ron Ricker, President

Less than two years after a record-setting drought, it appears our record-setting wet weather season is finally starting to change. The memory of wildfires and agricultural hardships reminds us to remain grateful for above average snow pack in the Cascades. We're also grateful that despite all that rain, construction is almost complete on our North City Pump Station! And that's just one of the many projects on our plate: we will be updating the computer model of our Water System, working with Sound Transit on the Lynnwood Link that will be going through our service area, and have initiated permitting and design development on our new Maintenance Building. Later this year we'll be adding several new water quality sampling stations. In direct response to our customers, we've updated our online bill paying system at <https://northcitywater.merchanttransact.com>. For more information about any of these efforts, come chat with us at a local community event, or email us at customerservice@northcitywater.org.

District employee Theresa Harrington presents the Enviroscope model that demonstrates road runoff to school children at the STEM fair

North City Waves Newsletter ~ a publication by North City Water District

- 1) Join www.nextdoor.com for neighborhood news and notices
- 2) Follow us on www.facebook.com/NorthCityWaterDistrict
- 3) Sign up for news, alerts, free classes and more on our website at www.northcitywater.org

Rate reduction available for 150 eligible low income persons.

Call us or visit www.northcitywater.org

Inside This Issue

- Annual Water Quality Report for 2016
- Water Test Results Tables and Definitions
- Project Updates
- Conserving Water Locally and Regionally
- Low Income Program
- More About Water Quality
- Keeping Our Water Safe with Cross Connection Control

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Annual Water Quality Report for 2016

North City Water District continues to maintain state and federal water quality guidelines that are significantly below EPA maximum levels.

All About Your Water

Who: Your drinking water is regulated by the Environmental Protection Agency (EPA), who sets drinking water quality standards, establishes testing methods and monitoring requirements for water utilities, sets maximum levels for water contaminants, and requires utilities to give public notice whenever a violation occurs. Your drinking water is tested frequently both by North City Water District and Seattle Public Utilities, our supplier, to ensure that high quality water is delivered to your home.

What: 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline 800.426.4791.

When: Your water is continuously monitored 365 days a year.

Where: Your water comes from both the Tolt and Cedar River Watersheds.

How: Last year your drinking water was tested for over 200 compounds and additional contaminates. Tests are done before and after treatment and while your water is in the distribution system. The Tables presented on the following page list all of the contaminants detected in the most recent required water testing and compare them to the limits and goals set by the EPA and the State of Washington to ensure your tap water is safe. Not shown are more than 200 additional contaminants that were tested for, but not detected, in your drinking water. If you would like to see a list of these other compounds or if you have other water quality questions, do not hesitate to contact us. Please note: asbestos monitoring is not required for our District because all the asbestos pipe in our distribution system was replaced prior to 1991.

The Best News: Your water falls safely within state and federal guidelines for each and every contaminant, significantly below the EPA's levels.

Lead and Copper Monitoring Results

Our regional water supply does not contain lead or copper. However it is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If 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. North City Water District 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 by calling the EPA's Safe Drinking Water Hotline at 1.800.426.4791, or visit their website at: www.epa.gov/safewater/lead

People With Special 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 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/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 at 1.800.426.4791.

If you would like to learn more about your water, or if you have questions about its quality, please don't hesitate to contact North City Water District at 206.362.8100.

Table 1: Water Quality Testing Results for 2016

Compounds that were not detected in 2015 are not included in these charts.

Types of Detected Compounds	Units	Primary Source	Ideal Goal (MCLG)	Max. Allowed (MCL)	Levels in the Cedar River Watershed Average Range		Levels in the Tolt Watershed Average Range		Meets EPA Stds.?
RAW WATER									
Total Organic Carbon	ppm	Naturally present in the environment	NA	TT	0.8	0.3 to 2.1	1.4	1.2 to 1.7	Yes
Cryptosporidium ¹	#/100L	Naturally present in the environment	NA	NA	0.3	ND to 2	ND	ND	Yes
FINISHED WATER SOURCE									
Turbidity	NTU	Soil runoff	NA	TT	0.3	0.2 to 2.3	0.07	0.01 to 0.2	Yes
Arsenic	ppb	Erosion of natural deposits	0	10	0.5	0.4 to 0.6	0.5	0.4 to 0.6	Yes
Barium	ppb	Erosion of natural deposits	2000	2000	1.6	1.5 to 1.8	1.3	1.0 to 1.6	Yes
Bromate ²	ppb	Byproduct of drinking water disinfection	0	10	ND	ND	0.1	ND to 1	Yes
Chromium	ppb	Erosion of natural deposits	100	100	0.27	0.25 to 0.33	0.2	ND to 0.24	Yes
Fluoride	ppm	Water additive to promote strong teeth	4	4	0.7	0.6 to 0.9	0.7	0.6 to 0.9	Yes
Nitrate	ppm	Erosion of natural deposits	10	10	0.02	(one sample)	0.09	(one sample)	Yes
Selenium	ppb	Erosion of natural deposits	50	50	ND	ND	ND	ND	Yes
Uranium	ppb	Erosion of natural deposits	0	30	ND	ND	ND	ND	Yes
SPECIFIC SAMPLES FROM NORTH CITY WATER DISTRICT'S DISTRIBUTION SYSTEM									
Total Trihalomethanes	ppb	Byproduct of drinking water disinfection	NA	80	Average: 52 Range: 32 to 40			Yes	
Haloacetic Acids (5)	ppb	Byproduct of drinking water disinfection	NA	60	Average: 40 Range: 23 to 49			Yes	
Chlorine	ppm	Water additive to control microbes	MRDLG =4	MRDL =4	Average: 0.79 Range: 0 to 1.5			Yes	

¹ Cryptosporidium was not detected in any samples from the Tolt supply (12 samples). It was detected in 2 of 12 samples from Cedar River supply.

² 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. During June 2016, we did not collect the monthly sample for bromate for the Tolt supply, and therefore cannot be sure of the quality of your drinking water during that time. Based on historical data, most bromate results for the Tolt supply are non-detect.

Table 2: Lead and Copper Monitoring Results for the Tolt Watershed in 2014

Samples are taken every three years. None of the samples for the Cedar River Watershed are in North City Water District's area.

Lead and Copper Sampling Program and Units	Ideal Goal MCLG	Action Level ³	Results of 2014 Samplings ⁴	# Homes Exceeding Action Level	Typical Sources in Drinking Water
Lead, ppb	0	15	2.9	0 of 50	Corrosion of household plumbing systems. Samples collected in homes within the Tolt water service area.
Copper, ppm	1.3	1.3	0.16	0 of 50	

³ The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

⁴ 90th percentile: 90 percent of the samples were less than the values shown.

Table Definitions

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.

MCL: Maximum Contaminant Level

The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MRDL: Maximum Residual Disinfectant Level

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG: Maximum Residual Disinfectant Level Goal

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TT: Treatment Technique

A required process intended to reduce the level of a contaminant in drinking water.

NTU: Nephelometric Turbidity Unit

Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2015 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95% of the samples in a month. 99.96% of the samples from the Tolt in December 2015 were below 0.3 NTU. 100% of the samples for the remainder of the year were below 0.3 NTU.

NA: Not applicable.

ND: Not detected.

ppm: 1 part per million = 1 mg/L = 1 milligram per liter.

ppb: 1 part per billion = 1 ug/L = 1 microgram per liter

1 ppm: = 1000 ppb.



North City Water District takes pride in providing safe, high quality drinking water to our community. However water safety is a two-way street: contamination can occur within your own piping system, even though the water that reaches your home or business is pure and clean. Part of our job is to prevent these types of contamination hazards from escaping back into the public water system.

What is a Cross Connection?

A cross connection is a point in a plumbing system where the potable water supply is connected to a non-potable source. If a backflow occurs, pollutants or contaminants can enter the drinking water system through uncontrolled cross connections. (Backflow: the unwanted flow of non-potable substances back into the consumer's plumbing system and/or public water system.) There are two types of backflow:

- **Back-siphonage:** this is caused by a negative pressure in the supply line to a facility or plumbing fixture. Backsiphonage may occur during waterline breaks, when repairs are made to the waterlines, when shutting off the water supply, etc.
- **Back-pressure:** this can occur when the potable water supply is connected to another system operating at a higher pressure, or with the ability to create pressure—including booster pumps, pressure vessels, and elevated plumbing.

The risk of contaminated water escaping into the overall water system due to cross connection is a very important health concern. The State Health Department has established rules that require water purveyors (including your District) to identify potential cross connection hazards within our water system, and take appropriate action to protect against these hazards.

The District is changing our software and will be contacting everyone on record with a backflow device. If you recently purchased your home and are unaware of this device and where it is on your property, please don't hesitate to give us a call at 206.362.8100.

Cross Connection Hazards

The best way to identify a potential cross connection hazard is by working with you, the water user. Typical hazards include:

- Fire sprinkler system
- Lawn irrigation system
- Swimming pool
- Hot tub / jacuzzi tub
- Livestock watering system
- Decorative fountain
- Water makeup lines*
- Hydraulic boat lifts

**that supply a boiler or hydronic heating*

Preventing Hazards

Mechanical backflow prevention devices (such as the one pictured above) are designed to prevent backflow from cross connections. However, for backflow preventers to protect as designed, they must meet stringent installation requirements.

If you have any of the items listed in the previous "Cross Connection Hazards" paragraph, if you are a business of (most) any kind, or if you raise farm animals, you are required to (1) have backflow prevention in place; (2) have a state certified Backflow Assembly Test on your backflow assembly each year; and (3) send us a copy of your test result. For a list of certified testers, contact us at 206.362.8100 or visit the following website: www.instruction.greenriver.edu/wacertservices/bat/bat_publiclist.asp