

PARTNERS IN CONSERVATION

Working together to keep using water wisely

How much water are we using?

Northshore Utility District partners with 18 other local utilities to form the *Saving Water Partnership* (SWP). SWP has set a six-year regional conservation goal: reduce per capita use from current levels so that the SWP's total average annual retail water use is less than 105 mgd (millions of gallons per day) from 2013 through 2018 despite forecasted population growth. For 2014, the SWP met the goal, using 93.8 mgd.

In 2014, NUD purchased just over 1.9 billion gallons of water from Seattle Public Utilities. Of that, 2.4% was unmetered (lost), or 44,954,052 millions of gallons. *(Note: the EPA cites 14% (six times our rate) as the average water loss rate in public systems—www.epa.gov.)*

To reduce system leakage and increase water efficiency, we continue to actively monitor and replace aging pipes prone to leaks or breaks. We also notify customers of potential leaks when identified during meter reads.

Water-saving strategies

Here are some things you can do to save water and keep your water bills low:

- ▶ Check for leaks and fix them as soon as you can. Find videos to help at savingwater.org/Indoors/FixingLeaks
- ▶ Replace old toilets with Water-Sense-labeled toilets (\$75 rebate available for Premium model—visit savingwater.org/Rebates)
- ▶ Water your garden less by putting a thick layer of mulch around plants

Savingwater.org has more water-saving advice, including a free Garden Hotline staffed by expert gardeners—call (206) 655-0224 or email help@gardenhotline.org.

Thank you for all you are doing to use water wisely. It makes a difference!



TELL US WHAT YOU THINK ABOUT USING WATER WISELY!

Take the survey at savingwater.org and enter to win a free home water & energy saving kit!

PROJECT SPOTLIGHT: INGLEMOOR PIPELINE STUDY

Robotic inspection technology helping us assure safe water supply

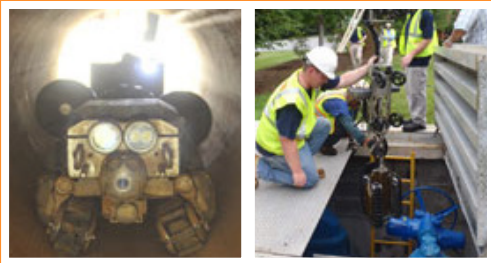
Later this summer, Northshore Utility District will begin a project to find out the condition of one of our key assets—a 24" diameter water main that supplies our largest water storage facility.

The **Inglemoor Transmission Main** (see map on next page) conveys water from the Seattle Public Utility (SPU) Tolt River Supply Line to the **Inglemoor Water Storage Facility** located on Inglemoor Hill in Kenmore. This main is the backbone of our water supply system, supplying a great portion of the water used by our 70,000 customers.

The pipeline is approximately 2 miles long and 40 years old, originally installed in 1975. The pipe material is known as "bar-wrapped

cylinder pipe"—consisting of a cylinder of steel wrapped in bars of steel and coated with mortar (a type of cement concrete). The steel bar wrapping strengthens the pipe cylinder to help it withstand the constant internal pressure; the mortar coating protects the steel from corrosion.

It's a well-constructed pipe, and we fully expect it to serve our needs for at least another 40 years. But if any part of it were to fail, besides its critical role in our water system, its replacement cost is estimated at \$6,000,000. Studying its condition now can help us identify necessary short-term repairs in order to avoid any unanticipated disruption to service.



Photos courtesy Pure Technologies™ (www.puretechltd.com)

Water Supply Update

How can Seattle's water supply outlook remain good while other areas face drought? Without minimizing the critical situation, it's important to clarify the difference between our regions.

1 Our stable rainfall. Despite warmer weather and resulting low snow pack levels, rainfall levels have stayed steady, replenishing our water supply.

2 Changes in water storage management. SPU (our water supplier) daily monitors snowpack and rainfall levels, climate changes, and other factors. They continually adjust how much water is stored and released to balance water supply, flood management, hydropower, and fish habitats.

SPU water managers have already banked additional rainfall to meet our normal usage needs (and compensate for our low snowpack).

3 Reduced local and regional water use. We are using far less water as a region than in years past, thanks to conscientious efforts on all sides.

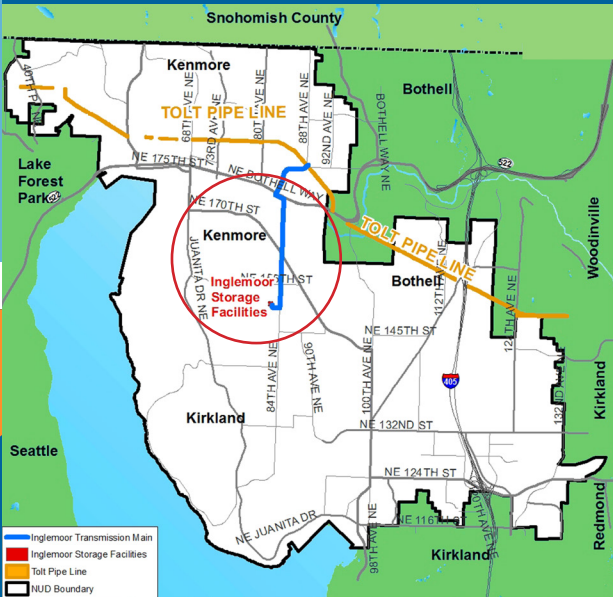
With our ongoing water-saving ethic, and precise monitoring and storage management tools, additional efforts to conserve are not needed at this point.

We will update you should the situation change. Our website links to SPU's most current water supply info.



Governor Inslee signing the new bill into law. Among strong team support, the bill's bipartisan sponsors included Senator Maralyn Chase and Representative Dean Takko.

INGLEMOOR PIPELINE PROJECT (continued)



One of our hardest-working pipes, the Inglemoor Transmission Main connects to SPU's Tolt Pipeline to supply our largest water storage facility at Inglemoor.

Prior to the survey by Pure Technologies, we will be hiring a contractor to install surface structures above the pipe. These "manholes" will allow access to portals that were built into the pipe during initial installation, but were not brought to the surface at that time.

The estimated fee for the work conducted by Pure Technologies is approximately \$240,000. We see this as money well invested to ensure that our valuable asset will continue to serve your needs for many years to come.

As it progresses, we'll be sharing project updates and photos on our website and social media.



NORTHSHORE NEWS

Updates on your rates and services

NEW LAW GIVES YOU A SAY IN WHO PROVIDES YOU SERVICE

Your water and sewer services are provided by Northshore Utility District (NUD), a "special purpose district." Districts like NUD are formed by a vote of the residents, before cities are able or ready to provide the various public services. But whenever a city is ready, it can take over, or assume, the portion of the district that lies within the city limits. The city then gets to keep the district's assets within its city limits without having to pay for them. Affected city residents have had no say in the matter. That is, until now.

THE NEW BILL

A bill was proposed and passed recently that provides a way for the affected citizens to stop, if they so choose, the assumption of their water-sewer district by a city. Most of your local elected representatives in both the House and Senate feel that you should have a say and voted for it. Senate bill 5048 was signed into state law on May 6, 2015, by Governor Inslee.

HOW THE BILL WORKS

The new law allows any citizen to file an opposition petition with the County Auditor, within ten days of when a city passes an ordinance to assume a water-sewer district. The County Auditor will give the petitioner the petition number and ballot title within ten days of the filing. The petitioner then has forty-five days to collect signatures from at least ten percent of the number of voters residing in the area of the water-sewer district targeted for assumption, who voted in the most recent general election. (If 4,000 people in the affected area voted in the most recent election, 400 signatures would meet the requirement.) Once enough valid signatures are gathered, the County Auditor will put the referendum measure up for vote in a general or special election within 120 days.

Interested in learning more about this bill? You can find more discussion about what it means for you at our website—www.nud.net.

NOW YOU GET TO CHOOSE

There are many reasons why some folks prefer to receive water-sewer services from a special purpose district over a city-operated utility. **Keeping lower service rates and avoiding the city's added utility tax are two main ones.**

Water and sewer facilities are constructed to follow the natural topography, not political boundaries. Water storage is always built at high elevations and sewer collection at the low point of the terrain to take advantage of gravity. For this reason, these facilities can be located all in one of the cities that we serve and none at all in the others that we also serve. Carving up a multi-jurisdictional water and sewer utility to follow political boundaries creates a whole new set of problems.

NUD INVESTS 100% OF YOUR RATES BACK INTO YOUR SERVICES

NUD is, and has always been, 100% supported by service rates. Your user rates and assessments pay for the services and all of NUD's assets like reservoirs, equipment, pipelines, and water right for future supply. We are not supported by property taxes and do not have to subsidize other municipal services with your rates.

Your rates go towards your services and nothing else.

This allows the District to run very efficiently, keeping lower rates than what most cities can offer.



2015 Annual Drinking Water Report

Published data for 2014



QUESTIONS? COMMENTS?



Contact us anytime!
(425) 398-4400 ▶ www.nud.net

We always welcome your input. We're always available to help you.

We take your questions, concerns, and comments very seriously.

We think you should be involved in decisions that affect your drinking water and your services.

You are invited anytime to attend our Board of Commissioners meetings, held the first and third Monday of each month at 5:30 p.m. at our office.



Connect with NUD socially! We share:

- ▶ Emergency updates
- ▶ Tips on saving money, conserving water, and protecting your pipes
- ▶ Updates on projects that may affect your area



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What's in this report? GOOD NEWS!

Your tap water meets or exceeds all standards for safe drinking water. In fact, your water is among the best in the nation—even better than bottled water, for purity, taste, and price!

This report explains how your water tested for safety and quality in 2014. If you have any questions about any of the information contained here, please contact our Water Quality Office at (425) 398-4419 or waterquality@nud.net.

Northshore Utility has been proud to provide you **high quality water, dependable service, and competitive rates** since 1947.

We always appreciate your feedback so we can continue to give you great service at the best rates.

1

WHERE DOES YOUR WATER COME FROM?

Northshore purchases our drinking water from Seattle Public Utilities (SPU). The South Fork Tolt River Reservoir and the Cedar River Reservoir supply almost all of Seattle's water. These two surface water sources are located in remote, uninhabited areas of the Cascade Mountains.

To safeguard your water sources, Seattle strictly enforces an aggressive protection program.

No agricultural, industrial or recreational activities are allowed within these water sources.

Northshore Utility's water comes from the Tolt River via the SPU Tolt Pipeline. Occasionally we receive water from the Cedar River. In 2014 all of our water came from the Tolt River.

Both water sources are treated at on-site plants—see more about that in section 3.

2

IS THERE RISK FOR SOURCE CONTAMINATION?

Since both the Tolt and Cedar watersheds are publicly owned by the City of Seattle, Seattle Public Utilities enforces a vigorous protection program. This gives little opportunity for contaminants to enter the water.

However, there is always some potential for naturally occurring sources of contamination. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminant. Their presence does not necessarily indicate that the water poses a health risk.

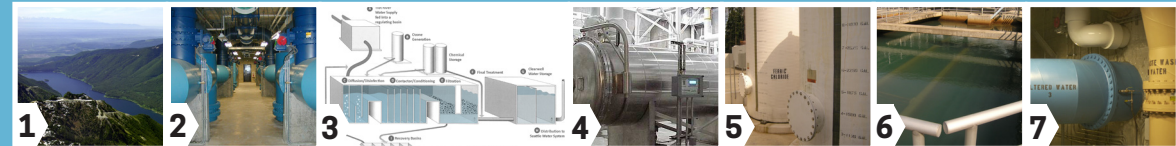
In Seattle's surface water supplies, the potential sources of contamination include:

- ▶ Microbial contaminants, such as viruses and bacteria, from wildlife;
- ▶ Inorganic contaminants, such as salts and metals, which are naturally occurring;
- ▶ Organic contaminants that are by-products of disinfection processes;
- ▶ Radioactive contaminants that can be naturally occurring.

3

YOUR WATER IS SAFE TO DRINK! HOW DO WE MAKE SURE?

How your water is treated:



1 The majority of our water travels from the Tolt River watershed.

2 "Raw" water is treated at the onsite Tolt Water Treatment Facility.

3 The **treatment process** for the Tolt uses a variety of compounds and steps to achieve the highest water quality. The process includes:

4 **Ozonation**—ozone gas disinfects the water and eliminates unwanted flavors;

5 **Coagulation and flocculation**—coagulation chemicals attach to tiny particles, which join together to become floc;

6 **Filtration**—the particles are removed through high-rate filters;

7 **Chlorination and fluoridation**—the water is disinfected further and fluoride is added for dental health (fluoride levels reduced to the lowest allowed by state law);

8 **Corrosion control treatment** (not pictured above)—water pH and alkalinity are adjusted to reduce plumbing corrosion.

The ozonation process is very effective at destroying Cryptosporidium and other microbes. Source water monitoring in 2014 detected Cryptosporidium in none of the samples collected from the Tolt water supply or the Cedar water supply. *You can learn more about the DOH Source Water Assessment Program at the DOH website at <https://fortress.wa.gov/doh/eh/dw/swap/maps/>.*

How your water is monitored and tested:



Northshore Utility District is always monitoring your drinking water to ensure it is safe for you and your family. Our remote monitoring system is designed to alert us to any change in water pH, temperature, and chlorine levels.

We monitor your drinking water **24 hours a day at 5 different locations**. We take samples at **6 additional sites 63 times per month**.

In addition to the data provided here, ***we monitor your water for over 150 other potential contaminants*** (not reported because no amounts were found).

Our water testing exceeds what's required by the Environmental Protection Agency (EPA) and Washington State Department of Health (DOH) to limit the amounts of certain contaminants in water provided by public water systems.

Our #1 priority is to provide you safe drinking water and reliable service. If you have any questions about your water quality, please contact our Water Quality Office: call (425) 398-4419 or email waterquality@nud.net.

You can get more information about contaminants and potential health effects through the **EPA Safe Drinking Water Hotline—(800) 426-4791**.

The Tolt River Watershed, our water source. Photo courtesy Seattle Public Utilities.

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2014 WATER QUALITY MONITORING RESULTS

Northshore Utility District provides **safe, reliable, and affordable drinking water to approximately 70,000 people**. Northshore's water system encompasses nearly 17 square miles within King County, extending from

Lake Forest Park to the City of Woodinville, all of Kenmore and parts of Kirkland and Bothell.

In accordance with State and Federal standards, we continually monitor and test our drinking

water. The following table lists the compounds that were detected in 2014.

Out of the detected compounds, none were above EPA allowable limits.

Table 1

Detected Compounds	Units	MCLG	MCL	Average	Range	Average	Range	Compliance	Typical Sources
RAW WATER									
Cryptosporidium*	#/100L	NA	NA	ND	ND	ND	ND	✓	Naturally present in the environment
Total Organic Carbon	ppm	NA	TT	0.9	0.4 - 1.9	1.3	1.1 - 1.7	✓	Naturally present in the environment
FINISHED WATER									
Turbidity	NTU	NA	TT	0.4	0.2 - 1.6	0.07	0.05 - 0.28	✓	Soil runoff
Barium	ppb	2000	2000	1.4	one sample	1.2	one sample	✓	Erosion of natural deposits
Bromate	ppb	0	10	ND	ND	.2	ND - 1.5	✓	By-product of drinking water disinfection
Fluoride	ppm	4	4	0.8	0.7 - 0.8	0.8	0.7 - 0.9	✓	Water additive, which promotes strong teeth
Nitrate	ppm	10	10	.02	one sample	.11	one sample	✓	Erosion of natural deposits
Coliform, Total	%	0	5%	None detected in 2014				✓	Naturally present in the environment
Total Trihalomethanes	ppb	NA	80	Average = 30		Range = 14.4 - 41.1		✓	By-products of drinking water chlorination
Haloacetic Acids (5)	ppb	NA	60	Average = 26		Range = 14.6 - 37.9		✓	By-product of drinking water chlorination
Chlorine	ppm	MRDLG=4	MRDL=4	Average = .856		Range = .13 - 1.34		✓	Water additive used to control microbes
Hexavalent Chromium	ppb	0	NA	NA		Range = 0 - .091		There are no health standards at this time	Naturally present in the environment, but can also be man-made
Chromium	ppb	0	NA	NA		Range = 0 - .25			
Strontium	ppb	0	NA	NA		Range = 0 - .30			
Vanadium	ppb	0	NA	NA		Range = 0 - .285			
*Cryptosporidium was not detected in any samples from the Cedar or the Tolt (3 sample studies)									
ND - Non-Detected NA - Not Applicable TT -Treatment Technique									

Table 2

Lead and Copper Monitoring Program Results - Tolt Reservoir

Parameter & Units	MCLG	Action Level +	2014 Results *	# 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	
* 90th Percentile: i.e. 90 percent of the samples were less than the values shown + The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.					

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 that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

NTU: Nephelometric Turbidity Unit
Turbidity is a measure of how clear the water looks. The turbidity MCL that applied to the Cedar supply in 2014 was 5 NTU, and for the Tolt it was 0.3 NTU for at least 95% of the samples in a month. 100% of the samples from the Tolt in 2014 were below 0.3 NTU.

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

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.

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.

Water Samples:
ppm: 1 part per million, or milligrams per liter = mg/L
ppb: 1 part per billion, or micrograms per liter = ug/L
1 ppm = 1000 ppb

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Monitoring Lead and Copper: Are You at Risk?

Our source waters do not contain lead or copper. However, lead and copper can leach into residential water from building plumbing systems. Lead and copper monitoring, conducted at homes categorized as "high risk," was most recently completed in 2014 (see Table #2 to the left).

Homes or buildings that were built or re-plumbed with copper pipes and lead-based solder prior to 1985 are considered "high risk." (Lead solder was banned in King County in 1985.) "Worst case" conditions occur when water has not been used and has been sitting stagnant in the pipes for six hours or longer—such as first thing in the morning. The risk decreases as the plumbing ages. **If you do not have copper plumbing, your home is considered "low risk."** However, some lead may also be leached from brass faucets.

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. Northshore Utility District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

What you can do—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. The flushed water should not be consumed as it may contain dissolved metals. However, it can be used for watering plants and washing dishes.

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 at (800) 426-4791 or at <http://water.epa.gov/drink/info/lead/>**.

Background photo: Tolt River, courtesy Jean Sherrard, pauldorpat.com.

6

Do You Have Health Concerns?

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