

Northshore Utility District Annual Water Quality Report

May 2001

Dear Customer:

Northshore Utility District is pleased to submit our third annual Water Quality Report to you, our valuable customer.

This report contains information about the overall condition of your drinking water. We hope you find this data helpful and informative. We encourage you to take a few minutes to review it.

Northshore Utility District remains committed to providing you with high quality drinking water. This report reflects our commitment. If you have any questions, comments or suggestions about the Water Quality Report, please contact our Water Quality / Safety Coordinator, Mick Holte at (425) 398-4417. [Inside Information...](#)

Sincerely,

Board of Commissioners

Don Ellis, President

Margaret R. Wiggins, Secretary

D. Bruce Gardiner

Trudy C. Rolla

Kinnon W. Williams

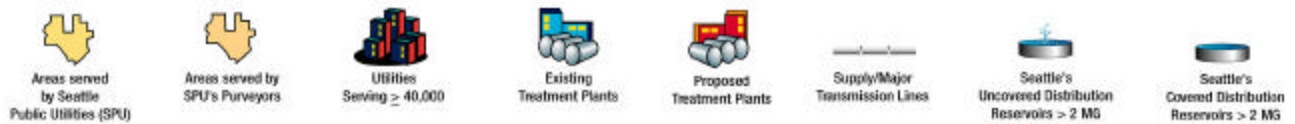
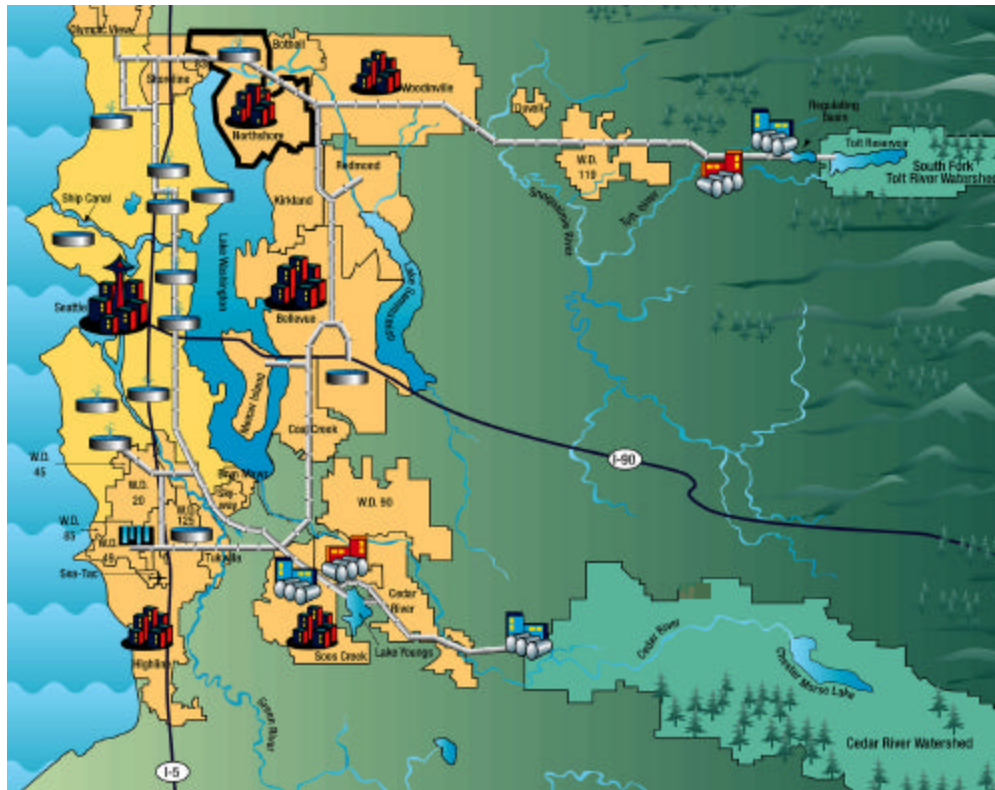
Don Ellis, President

Board of Commissioners

Northshore Utility District

- ◆ Water Sources
- ◆ Water Quality
- ◆ Health Issues
- ◆ Residential Monitoring
- ◆ FAQ's

Northshore Utility District - Water Source



Seattle Public Utilities (SPU) provides drinking water to approximately 1.3 million people in the Seattle metropolitan area. The Cedar River Reservoir and the South Fork Tolt River Reservoir supply almost all of SPU's water. These two surface water sources are located in remote, uninhabited areas of the Cascade Mountains. An aggressive watershed protection program is strictly enforced; no agricultural, industrial or recreational activities are allowed.

Northshore Utility District receives water primarily from the South Fork Tolt River Reservoir source. Occasionally, Cedar River water is used, depending on snow pack accumulations, drought conditions and the availability of water transmission lines. Both water sources receive treatment consisting of chlorine disinfection, fluoride addition, and pH adjustment.

SPU provides high quality drinking water. However, to meet new water quality requirements and improve the overall reliability of the water system, significant capital improvements will be made in the future.

New capital improvement projects include:

- ◆ Tolt Filtration Plant – completed and on line in December 2000. DOH accepted February 21, 2001;
- ◆ Cedar Treatment Project – will include the installation of ozonation facilities by 2004.

More information on these projects can be found on SPU's web site at www.ci.seattle.wa.us/util/.

Northshore Utility District – Water Quality Maintenance Programs

Northshore customers enjoy water of very high quality. After the water reaches our District, Northshore takes the following measures to insure that it remains clean and pure:

- ◆ Each year all of our water main lines are flushed to remove any sediment build-up.
- ◆ All new water lines are disinfected, flushed and sampled before they are brought into service.
- ◆ All of our reservoirs (water storage units) are routinely sampled for chlorine residuals.
- ◆ All reservoirs are cleaned, disinfected and painted on a regular schedule.
- ◆ A water quality coordinator on staff monitors water quality.
- ◆ Older steel mains have been replaced with ductile iron pipe, which is more resistant to rusting and leaking.
- ◆ Each month, a total of at least 49 samples are collected from eight separate locations throughout our District. The samples are tested by Seattle Public Utilities laboratory for coliform bacteria as well as water temperature, pH, and chlorine residual.

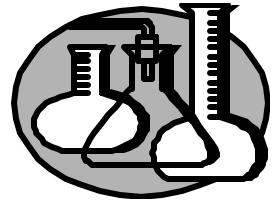


FAQ's – Frequently Asked Questions

- ◆ How can I get more involved in decisions affecting my drinking water?
There are Board of Commissioner meetings each month – on the 1st and 3rd Monday at 6:00 pm in the Northshore Room at Northshore Utility District in Kenmore. We welcome you to attend these meetings.
- ◆ Why does my water occasionally appear white or cloudy?
Air in the water can cause a milky appearance. Water that contains dissolved air is delivered to our homes under pressure. Turning on the faucet releases the pressure, causing air bubbles to appear. Like the carbon dioxide in soft drinks, the tiny bubbles rise to the surface. Clearing begins at the bottom of the container and within a couple of minutes the water is clear.
- ◆ Does bottled water have contaminants?
Drinking water, including bottled water, may reasonable be expected to contain at least small amounts of some contaminants. The presence of contamination 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 Hotline at 1-800-426-4791.
- ◆ Why does my water taste or smell like chlorine?
Chlorine is used by water utilities throughout the world to prevent disease-causing microorganisms from growing inside water lines. Chlorination of surface water supplies is required by the Washington State Department of Health. There may be an odor of chlorine when you first turn on your tap, especially in the morning. However, that odor should rapidly dissipate and you should not be able to taste it. If your water has an objectionable taste or odor, please call the District's Water Quality / Safety Coordinator at (425) 398-4417.
- ◆ Is Fluoride added to our drinking water?
Yes. One part per million is added to reduce tooth decay. A 1968 Seattle referendum requires the

Northshore Utility District – Health Issues

The Washington State Department of Health (WDOH) is responsible for conducting source water assessments for all water supplies in the state by 2003. WDOH has not yet conducted these for Seattle's sources, but they have completed vulnerability assessments. Seattle's surface water and groundwater sources have been given the designation of "low vulnerability" for organic and inorganic contamination.



The sources of all 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 can pick up substances resulting from the presence of animals or human activity.

In the Tolt and Cedar water supplies these potential contaminants may 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; and
- ◆ Radioactive contaminants that can be naturally occurring.

The presence of contaminants does not necessarily indicate that water poses a health risk.

(*Cryptosporidium parvum*) "*Crypto*" is a disease-causing organism commonly found in the natural environment. Most rivers and streams across the country have detectable concentrations.

Cryptosporidium sources include deer, elk and voles in the watersheds. There have been no disease outbreaks associated with Seattle's drinking water. Chlorination is ineffective against *Cryptosporidium*; however, Seattle plans to use ozonation to disinfect water in the future. Ozonation is very effective at destroying *Cryptosporidium* and other microbes.

Source water *Cryptosporidium* monitoring was conducted for the last four months of 2000.

Cryptosporidium was detected in three of the seven samples from each source. The maximum concentration of *Cryptosporidium* detected on the Cedar was 2 organisms per 100 liters, and the maximum concentration detected on the Tolt was 20 organisms per 100 liters. These levels are relatively low compared to typical rivers and streams throughout the country.

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. To ensure that tap water is safe to drink, EPA adopts regulations setting the water quality standards for public water systems.

Information on *Cryptosporidium* and other microbial contaminants are available from the Environmental Protection Agency's Safe Drinking Water Hotline at [1-800-426-4791](tel:1-800-426-4791).

Northshore Utility District – 2000 Water Quality

Seattle Public Utilities 2000 water quality monitoring results, listed in the table below, confirmed that there were no contaminants at or above established levels of concern for the general public. Turbidity is also monitored and is a measure of clarity in the water. It has no direct health effects, however, it is an overall indicator of water quality. Both the Cedar River and the South Fork Tolt River generally have low turbidity levels.

TABLE DEFINITIONS

Action Level – AL

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

Maximum Contaminant Level – MCL

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

Maximum Contaminant Level Goal – MCLG

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Nephelometric Turbidity Unit – NTU

The unit of measurement for turbidity.

Treatment Technique – TT

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

2000 Water Quality Monitoring Results		For water samples: 1 mg/l = 1000 µg/l ppm = parts per million, or milligrams per liter – mg/l ppb = parts per billion, or micrograms per liter – µg/l					
Detected Parameter & Units	MCLG	MCL	Cedar Water		Tolt Water		Typical Sources
			AVG	Range	AVG	Range	
CLARITY – Measured Before Treatment							
Turbidity, NTU	NA	TT(5)	0.5	0.2 - 3.4	0.5	0.2 - 1.4	Soil runoff
INORGANIC AND ORGANIC PARAMETERS – Measured After Treatment							
Fluoride, ppm	4	4	0.9	0.8 - 1.1	1.0	0 - 1.2	Water additive that promotes strong teeth.
Nitrate, ppm – one sample	10	10		0		0.1	Erosion from natural deposits.
Total Organic Carbon	NA	TT	1.0	0.6 - 1.4	1.3	1.1 - 1.6	Naturally present in the environment.
DISINFECTION BY-PRODUCTS – Measured in the Distribution System							
Total Trihalomethanes, ppb	NA	100	0	0 - 0	76	55 - 86	By-product of drinking water chlorination
TT Treatment technique Only one sample for nitrate was collected.							NA – not applicable ND – not detected AVG – average

If you would like a copy of the list for the undetected contaminants, please call (425) 398-4417. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of cancer. With the completion of the Tolt Filtration in 2000, the TTHM's should be reduced.

Northshore Utility District – Residential Lead, Copper & Radon Monitoring

The Tolt and Cedar 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 is conducted at homes categorized as high risk, most recently in 1997. Compliance is determined on a regional basis.

As part of regional monitoring conducted in 1992 and 1997, the drinking water in “high risk” homes was tested for lead and copper under “worst case” conditions. Fourteen percent of these regional homes exceeded the allowable level for lead. Because of this, Northshore Utility District sends out annual public education materials regarding lead and your drinking water.

Homes or buildings that were built or replumbed with copper pipes and lead-based solder prior to 1984 are considered, “high risk.” Lead solder was banned in King County during 1985. “Worst case” conditions are defined as 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, you are at low risk.

If your home is considered “high risk,” you may want to flush out any water that has been sitting for six hours or longer, prior to using for cooking or drinking. You can run the water for approximately 30 seconds in order to flush out the plumbing lines. The flushed water should not be consumed as it may contain dissolved metals. However, this water can be used for watering plants or washing dishes. If your home is not “high risk,” you may still be at some risk from lead being leached from brass faucets. In this case, you only need to run 6-8 ounces of water in order to flush out any contaminants.

Infants and children who drink water containing lead in excess of the Action Level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

The 90th percentile means that 90 percent of the homes had concentrations below the reported value, and ten percent of the homes had concentrations above the reported value. Seattle’s planned treatment improvements should further reduce the corrosiveness of the water to your plumbing materials, which we expect to meet the Action Levels in the future.

LEAD AND COPPER				
			<i>Combined Regional Monitoring Program Results</i>	
Parameter & Units	MCLG	Action Level	90 th percentile	# of homes exceeding action level
Lead, ppb	0	15	19.3	53 of 390 (14%)
Copper, ppm	1.3	1.3	0.6	0 of 390

Sources of Contamination: Corrosion of household plumbing systems.
Lead & copper data from 1997 sampling at customer's taps. Next sampling will be in 2003-2004.

Although we are not required to test for radon, we have tested each of our sources to determine its occurrence. Monitoring shows that radon is not present in either the Cedar or Tolt water supplies.

Northshore Utility District – Water Conservation

With our dry winter and low snowpack, it is more important than ever to conserve. Water conservation helps to stretch our existing supplies, saves you money, and keeps water in the streams for salmon. Here are some tips that will help you make a difference:

- ◆ Take shorter showers or shallow baths.
- ◆ Turn off the water while brushing your teeth.
- ◆ Wash only full loads of clothes and dishes.
- ◆ Repair all leaks promptly.
- ◆ Don't use the toilet as a wastebasket.
- ◆ If it's time to replace your clothes washer, purchase a high-efficiency model.
- ◆ Water your lawn early in the morning or consider letting your lawn go dormant in the summer.
- ◆ For more conservation tips, visit www.savingwater.org.
- ◆ Call our lawn watering hotline at (425)398-4400 during the summer to hear the most up-to-date watering information.

Additional Water Quality Information

◆ Northshore Utility District
6830 NE 185th ST
Kenmore, WA 98028-2701

Phone #: 425-398-4400

Website: www.nud.net

e-mail: mholte@nud.net

◆ Seattle Public Utilities

Website: www.ci.seattle.wa.us/util/

◆ Washington State Department of Health

Website: www.doh.wa.gov/ehp/dw/

◆ Environmental Protection Agency
Safe Drinking Water Hotline

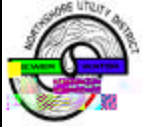
Website: www.epa.gov/safewater

Phone #: 1-800-426-4791

e-mail: hotline-sdwa@epamail.epa.gov



Northshore Utility District Facility



Northshore Utility District – Fast Facts

- ◆ Northshore Utility District has very soft water at less than one grain of hardness per gallon
- ◆ Combined storage capacity of the District's reservoirs - 29 million gallons
- ◆ Number of water connections - 18,748
- ◆ Number of residents served by the District - 65,000
- ◆ Miles of water pipeline - Approximately 245
- ◆ Miles of sewer pipeline - Approximately 230
- ◆ Service area - 17 square miles
- ◆ Daily peak water usage - 12 mgd or million gallons per day
- ◆ Average daily water usage - 5.5 mgd

Tolt Filtration Plant comes online

Earlier this year, Seattle Public Utilities (SPU) brought its new filtration plant into service. Residents in the service area of Northshore receive their drinking water from the South Fork Tolt Reservoir, which is located about 10 miles east of the City of Duvall. Water originates in the Tolt Watershed as rainfall and snowmelt in the Cascade Mountains, then is collected in the South Fork Tolt Reservoir. Seattle Public Utilities owns and operates the reservoir. Northshore purchases the water from SPU, and delivers it to you.

The treatment system at the Tolt previously consisted of the addition of chlorine for disinfection, fluoride to improve dental health, and minerals (calcium oxide and sodium carbonate) to increase the pH and reduce corrosion in plumbing. SPU has been planning for the implementation of water treatment improvements on the Tolt supply since the early 1990's. The new filtration plant's specific treatment improvements include ozone injection and filtration. Ozone is a very strong disinfectant (stronger than chlorine), that effectively kills microorganisms including *Giardia* and *Cryptosporidium*. Filtration effectively removes turbidity (including organic matter) from the water. In addition to ozonation and filtration, the new facility will continue to include the injection of chlorine and fluoride, as well as pH adjustment chemicals.

Tolt system consumers likely will not notice much difference in the water delivered to their taps. However, it is possible there will be a slightly improved taste and increased clarity. The new Tolt Treatment facility will increase system reliability and flexibility by permitting continuous operation of the Tolt through periods of high turbidity, will allow long range conformity with anticipated regulations, and will increase system yield. To learn more about the new filtration plant, visit <http://www.ci.seattle.wa.us/util/DW/TOLT/default.htm>.