



# 2008 City of Port Townsend Annual Drinking Water Report

## Managing Water Quality

The City of Port Townsend is pleased to provide our annual report on water quality monitoring performed during 2008. Water quality is derived from how we manage the watersheds, treatment, storage tanks, and more than 100 miles of pipeline in the distribution system. Since 1928, the City and U.S. Forest Service have cooperated in a joint effort to manage and protect the municipal watershed. The exceptional quality of rainwater and snowmelt coming from our watershed requires less treatment than is necessary for most water sources. The following report details where your water comes from, what it contains, and how it compares to the drinking water standards set by regulatory agencies.

## Water Sources

Water for the City of Port Townsend (System ID 69000R) is surface water from the Big and Little Quilcene Rivers (Source 01 & 02) in the northeast corner of the Olympic National Forest. Water is stored in Lords Lake and City Lake reservoirs. Treatment consists of screening debris such as leaves and disinfection with chlorine to provide protection from microbial contaminants. As with all surface water sources, the Washington Department of Health rates the City's source water as highly susceptible to contamination. By minimizing the potential for contamination of our source water, we continue to exceed the stringent requirements to remain an unfiltered surface water system.

## Potential Contaminants

The substances listed in the following tables are the only ones detected in our drinking water. Washington State requires us to monitor for certain contaminants less than once per year because concentrations of these contaminants are not expected to vary significantly from year to year.

*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 (1-800-426-4791).*



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. Despite the limited type of activities within our watersheds, there is the possibility of contamination. For Port Townsend's source water these include:

- Microbial contaminants, such as viruses, protozoans, and bacteria, which may come from wildlife and people and pets visiting the watershed.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring.
- Pesticides and herbicides, which may come from a variety of sources such as forestry management.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which can come from vehicles in the watershed or that result from chlorine combining with naturally occurring organic matter.

In order to ensure tap water is safe to drink, the Department of Health and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Washington Department of Agriculture regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

*Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).*

## Water Use Efficiency Report

Last year an average of 0.95 million gallons of water per day was delivered to more than 9600 customers as well as thousands of visitors. Total consumption was 347 million gallons with residential consumption averaging 65 gallons per person per day. This was a reduction of 37 million gallons or 0.1 million gallons less per day than used in 2007.

Of the total consumption, 3.5% (12 million gallons) was unaccounted for by customer meters or other measurement. Unaccounted for water is lost through such things as under registering meters, use of fire hydrants, and leaking underground pipes. The City, in partnership with the WRIA-17 Planning Unit and Jefferson PUD, has purchased leak detection equipment to be shared with other utilities in eastern Jefferson County. Beginning in 2009 the City will conduct its own system leak surveys to continue reducing unaccounted for water.

## Port Townsend Annual Water Quality Analysis

Disinfection Byproducts	MCL	MCLG	Highest Detected Level	Testing Frequency	Violation	Typical Source of Contaminant
Total Trihalomethanes (TTHMs) (ppb)	80	NA	23.2	Once a year	No	By-product of drinking water chlorination
Haloacetic Acids (HAAs) (ppb)	60	NA	15.5	Once a year	No	By-product of drinking water chlorination

- Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
- Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant	MCL	MCLG	Range of Detections	Testing Frequency	Violation	Typical Source of Contaminant
Chlorine (ppm)	MRDL = 4	MRDLG = 4	0.05 – 0.82	Continuous	No	Water additive used to control microbes
Total Coliform Bacteria (treated water)	MCL = 1	0	0-2	15-20 samples per month	Yes	Naturally present in the environment
Fecal coliform and <i>E. coli</i> (treated water)	MCL: a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	0	0-1	15-20 samples per month	No	Human and animal fecal waste
Fecal Coliform Bacteria (untreated water)	90% of samples containing fewer than 20 colonies per 100 ml of water	0	0-21	4 times per week	No	Human and animal fecal waste
Total organic carbon	TT	NA	ND-2.85	Monthly	NA	Naturally present in the environment
Turbidity (NTU)	TT=5	NA	0.13-0.94	Continuous	No	Soil runoff

- Chlorine is used for microbiological disinfection of our drinking water. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
- Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
- Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
- Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects and may lead to an increased risk of getting cancer.
- Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Inorganic Chemicals	AL	MCLG	90 <sup>th</sup> Percentile Value	# of home sites tested above AL	Range of Results	Testing Frequency	Violation	Typical Source of Contaminant
Lead (ppb)	AL=15	0	4	0 of 20	1-8	Once every 3 years	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3	0	0.41	0 of 20	0.09-0.53	Once every 3 years	No	Corrosion of household plumbing systems; erosion of natural deposits

- If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Port Townsend 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 drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.
- Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short period of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

## Definitions:

<p><b>Action Level (AL):</b> The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.</p> <p><b>Lead and Copper 90th Percentile:</b> Out of every 10 homes sampled, 9 were at or below this level.</p> <p><b>Maximum Contaminant Level (MCL):</b> 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.</p> <p><b>Maximum Contaminant Level Goal (MCLG):</b> 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.</p> <p><b>Maximum Residual Disinfectant Level (MRDL):</b> 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 disinfectant is necessary for</p>	<p>control of microbial contaminants (e.g. chlorine, chloramines, chlorine dioxide).</p> <p><b>Maximum Residual Disinfectant Level Goal (MRDLG):</b> 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.</p> <p><b>NA:</b> Not applicable</p> <p><b>ND:</b> Not Detected or below State Reporting Limit.</p> <p><b>NTU:</b> Nephelometric Turbidity Units - a measure of the cloudiness of the water.</p> <p><b>ppb:</b> Parts per billion or micrograms per liter (µg/L).</p> <p><b>ppm:</b> Parts per million or milligrams per liter (mg/L).</p> <p><b>Treatment Technique (TT):</b> A required process intended to reduce the level of a contaminant in drinking water.</p>
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## Public Comment

The public is invited to participate in decisions that affect drinking water through comment to the City of Port Townsend City Council. Information about scheduled meetings is available through the City Administration Office (385-3000).

## More Information

The City of Port Townsend's water meets or exceeds all EPA and State drinking water health standards. If you have any additional questions about our drinking water or would like a complete list of substances we test for please call Ian Jablonski at the Port Townsend Department of Water Quality (379-5001). Information is also available on the City's web site: [www.cityofpt.us/Publicworks/WaterQuality.asp](http://www.cityofpt.us/Publicworks/WaterQuality.asp)