We are the City of Bellingham Public Works Department and we like to think we put the “work” in Public Works!

It is our responsibility to provide you with high quality drinking water and with this publication, the Consumer Confidence Report, to let you know how we are doing.

This Consumer Confidence Report is an annual requirement of the Safe Drinking Water Act and provides you with information about the quality of your drinking water. Bringing you safe, clean, great tasting water takes a team of dedicated people, some of them working 24 hours a day. Their jobs include:

- **Filtering and treating** the water piped from Lake Whatcom
- **Monitoring the purity** of the water
- **Maintaining** reservoirs, pump stations and treatment equipment
- Checking for and **repairing water leaks**
- **Installing and maintaining** water pipes, meters and fire hydrants
- **Mapping** the locations of water pipes and related equipment
- **Providing engineering and inspections** of new water system components

CONTINUED INSIDE
Our water plant operators and lab staff filter and disinfect the water to remove any impurities and then test the water every day to make sure it stays clean. How clean? Check out the Water Quality Monitoring Results table on the inside page.

The Geographic Information Services (GIS) group keeps an inventory of the 390 miles of water main in our water distribution system. With accurate information about the location, age and composition of the pipe we can decide when it should be replaced and coordinate that work with any road work that may be needed in the same area. This helps minimize traffic delays and water service disruptions in Bellingham.

Some of the most important components in our water system are the valves that allow us to shut water off or re-route the flow of water in the event of an emergency or when we need to perform normal maintenance on the pipes. In order to make sure the valves will function when we need them, water crews regularly exercise (operate) the valves on a preventative maintenance schedule.

Mineral deposits can build up in water lines. Each year we clean the pipes by opening fire hydrants and allowing the water to flush out these deposits. Along with cleaning the line, flushing allows us to make sure that the water maintains a high standard of purity on its way to your home. If there are any problems with the hydrants, or weaknesses in the line, flushing is a good way to locate those problems and repair them before service is disrupted. Flushing all the lines takes several weeks each spring.

When you drink from a straw, you may have noticed that the liquid drains back into the container when you stop drinking. To prevent this backwards flow into our water pipes, backflow prevention assemblies must be installed on water lines that serve certain types of businesses including manufacturing, hospitals and car washes to name a few. These devices are inspected on a regular basis to make sure our water flows in only one direction.

Water is a precious resource. When a water main breaks unexpectedly or a fire hydrant is hit by a car, it is important to repair the damage immediately, wasting as little water as possible. Replacing aging water mains helps prevent these breaks from occurring. In 2006, the City replaced 12,000 feet of water pipe in our distribution system.

As our population grows and infrastructure ages, we add new water reservoirs to store water, and install new pumps and water lines to get that water to our customers. We must also make sure there is enough water and water pressure to fight potential fires.

The Bellingham Public Works staff work for you! One of our most important jobs is making sure you have a reliable supply of safe, clean, and great tasting drinking water. We take a lot of pride in our work and we know we are doing our best when you don’t even have to think about us.

Elevated Levels of Lead
Elevated levels of lead in drinking water can cause serious health problems, especially for pregnant women and young children. Fortunately in Bellingham, lead is not found in the treated water, but lead in drinking water can come from pipes and faucets in our customers’ homes. The City of Bellingham is responsible for providing high quality drinking water, but cannot control the variety of materials used in customer’s plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for at least 30 seconds before using the water for drinking or cooking. You can capture this water to use on plants. If you are concerned about lead in your water you may wish to have your water analyzed by a local laboratory. To learn more about lead in water, go to: http://www.epa.gov/safewater/lead
Protect your drinking water from contaminants

Without proper protection devices, something as useful as your garden hose has the potential to poison your home’s water supply. In fact, over half of the nation’s cross-connections involve unprotected garden hoses.

A cross-connection is a permanent or temporary piping arrangement which can allow your drinking water to be contaminated if a backflow condition occurs. This is when the water is flowing in the opposite direction from its normal flow. This can happen due to either:

- **Backpressure** – the pressure in your pipes is greater than the pressure coming in, or
- **Backsiphonage** – a negative pressure in one of the pipes.

With the direction of flow reversed, due to a change in pressures, backflow can allow contaminants to enter our drinking water system through cross-connections.

A potentially hazardous cross-connection occurs every time someone uses a garden hose sprayer to apply insecticides or herbicides to their lawn or garden. Another cross-connection occurs when someone uses their garden hose to clear a stoppage in their sewer line, or submerges a hose in a pet’s water bucket, a pond or a swimming pool to fill it.

Without a backflow prevention device between your hose and hose bibb (spigot or outside faucet), the contents of the hose, and anything it is connected to, can backflow into the piping system and contaminate your drinking water.

Backflows due to cross-connections are serious plumbing problems. This hazardous situation sometimes can affect more than a single home. They can cause sickness and even death. However, they can be avoided by the use of proper protection devices. Each spigot at your home should have a hose-bibb vacuum breaker installed. This is a simple, inexpensive device that can be purchased at any plumbing or hardware store. Installation is as easy as attaching your garden hose to a spigot.

The City of Bellingham is committed to providing and maintaining safe, clean water for the citizens of Bellingham. To help ensure that this occurs, the City has established a cross-connection control (CCC) program administered through the Department of Public Works. The purpose of this program is to protect the public water system from the risk of contamination due to cross-connections. Our program meets the requirements of the State of Washington Department of Health drinking water regulations, Uniform Plumbing Code, and Bellingham Municipal Codes for cross-connection control.
Sometimes it seems like it rains all the time in the Northwest, but did you know that we can also have droughts during the warmer spring and summer months? From May to September, we usually get about 5 of the 32 inches of normal annual rainfall. Our state leaders recognize that water is a precious resource and that we need to conserve it. To support this, they have adopted the Municipal Water Law which addresses increasing demands on our state’s water resources and requires cities to adopt goals and implement measures to conserve these resources.

To comply with this new law, the City of Bellingham has adopted the following goals:

- Maintain city-wide per capita daily water consumption
- Keep city-wide water demand equal to, or below, city population growth rate

The City will be implementing the following measures over the next 6 years to help meet these goals:

- Toilet retrofit program for single-family residence water customers
- Toilet retrofit program for multi-family water customers
- Toilet retrofit program for commercial customers
- Develop and implement a water conservation education program for 6th grade students in Bellingham schools
- Create lawn-watering door hanger for distribution during peak demand periods
- Evaluate and develop high-efficiency fixture program
- Develop future water rate structures with an emphasis on water conservation
- Upgrade city parks to high-efficiency irrigation systems
- Continue existing public outreach measures

Throughout the year, City of Bellingham water customers use an average of 10 million gallons of water each day (mgd), however, during the months of May through September, this number can get as high as 19 mgd. We depend on you, our customers, to help us meet our water conservation goals. It is remarkable how even small changes can save a lot of water.

Did you know that the largest water use in the home is the toilet? Fixing a leaky toilet can save up to 50 gallons or more per day! And, if you replace a 3 gallon per flush (gpf) toilet with a high-efficiency toilet (1.2 – 1.6 gpf), you can reduce your household’s water consumption by up to 43%! Now multiply that times 26,000 customer accounts and we could save millions of gallons.

For more information about Water Conservation, visit the city’s website: www.cob.org/environment/conservation
The City of Bellingham tests its drinking water for more than 150 substances. The table below shows those that are regulated by the U.S. Environmental Protection Agency (EPA) and were detected in 2007 or during the most recent sampling period prior to 2007. This information is required to be provided to drinking water customers each year.

<table>
<thead>
<tr>
<th>DETECTED SUBSTANCES</th>
<th>2007 (or most recent) LEVEL DETECTED</th>
<th>EPA Maximum Contaminant Level (MCL) or Action Level (AL)</th>
<th>IN COMPLIANCE?</th>
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<tr>
<td><strong>Disinfection By-Products:</strong> Total Trihalomethanes (THM) and Haloacetic Acids (HAA). THMs and HAAs are the most common type of disinfection by-products. The city establishes compliance for disinfection by-products by sampling four times a year at four specific sites in our system.</td>
<td>Bellingham's average disinfection by-product levels for 2007 were: THM: Average: 34.1 ppb Range: 18.5 to 50.2 ppb HAA: Average: 15.2 ppb Range: 2.6 to 26.0 ppb</td>
<td>Average MCL must be: below 80 ppb THM and below 60 ppb HAA</td>
<td>Yes</td>
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<td><strong>Free Chlorine Residual:</strong> Chlorine levels are monitored continuously at the water treatment plant and daily at different points throughout the water distribution system.</td>
<td>Of the 984 chlorine samples collected in the distribution system the average chlorine was 0.31 ppm with a range of 0.00 - 0.82 ppm</td>
<td>There is a requirement for a 0.2 ppm minimum chlorine residual to the first customer in the distribution system. There is also an average maximum residual disinfection level (MRDL) of 4.0 ppm in the distribution system.</td>
<td>Yes</td>
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<td><strong>Lead and Copper:</strong> Lead and copper are monitored every three years in our customers’ homes to assess the amount of corrosion occurring in home plumbing. Homes selected are those with leaded solder and copper pipe. The most recent sampling was in 2005.</td>
<td>Lead: The 90th percentile value of 53 homes sampled showed lead at the 6 ppb level. Two homes were above the action level. Copper: The 90th percentile value of the 53 homes sampled was 93 ppb. No sites were above the action level.</td>
<td>The allowable highest 90th percentile values are: Lead: 15 ppb Copper: 1,300 ppb</td>
<td>Yes</td>
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<td><strong>Total and Fecal Coliform Bacteria:</strong> The City samples a minimum of 80 sites in the water distribution system each month for indicator bacteria.</td>
<td>Of the 984 samples collected for total and fecal coliform in 2007, none tested positive for either coliform bacteria.</td>
<td>Allowable highest percentage of total coliform positive samples a month is five percent. The presence of any fecal coliform in drinking water samples would require public notification of this problem within 24 hours.</td>
<td>Yes</td>
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<td><strong>Turbidity:</strong> Turbidity is a measurement of the clarity of the water. The City monitors turbidity continuously at the beginning, middle and end of the treatment process. Turbidity reported for compliance is in the treated water.</td>
<td>Bellingham's single highest turbidity level for 2007 was 0.32 nephelometric turbidity units (NTU) on August 31st. The City was below the 0.3 NTU requirement in August 99% of the time, and below 0.3 NTU 100% of the time for all other months.</td>
<td>Compliance means filtered water turbidity shall be less than or equal to 0.3 NTU in at least 95% of the measurements made each month and shall never exceed 1.0 NTU.</td>
<td>Yes</td>
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</table>

This report provided to customers of the City of Bellingham, Washington, Public Water System ID # 056003 providing water from the Lake Whatcom Reservoir, a surface water source located in Whatcom County, ODW Source ID# S01. Please contact City of Bellingham Laboratory Supervisor Peg Wendling at 778-7872 if you have any questions about your drinking water or this report. Additional information about City of Bellingham drinking water and Lake Whatcom is available at www.cob.org
Drinking water information and definitions

**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close as feasible using the best available treatment technology.

**Maximum Contaminant Level Goal or 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.

**Maximum Disinfectant Residual 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 (e.g. chlorine, chloramines, chlorine dioxide).

**Chlorine:** Chlorine is used as a water disinfectant. Disinfection is the most important step in the water treatment process to destroy pathogenic bacteria and other harmful agents. Chlorination is a very common and effective method for the disinfection of drinking water. Your water supplier is required to maintain a free chlorine residual throughout their water distribution system.

**Disinfection By-Products:** The use of chemical disinfectants like chlorine in water treatment usually results in the formation of chemical by-products, some of which are potentially hazardous. However, it is well understood that any risk to health from these by-products at the levels at which they occur in drinking water are extremely small in comparison with the risks associated with inadequate disinfection. The most prevalent disinfection by-products are trihalomethanes and haloacetic acids.

**Turbidity:** Turbidity has no health effects. It is a measurement of the clarity of the water. Turbidity in water is caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter and plankton and other microscopic organisms. Turbidity can interfere with the ability to treat the water effectively.

More information about safe drinking water

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).

Sources of drinking water throughout the nation, including 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. To ensure that tap water is safe to drink, the Washington Department of Health and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) and Washington Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

**Tips for people with compromised immune systems**

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).

**Bellingham’s drinking water treatment process**

A wooden pipeline carries water from the Lake Whatcom Reservoir into a tunnel that leads to a screenhouse, where debris is removed and chlorine added. From the screenhouse, the water travels through a pipeline to the filtration plant for treatment. The City’s modern control system allows plant operators to closely monitor the treatment process 24 hours a day, and a state-certified laboratory ensures rigorous quality control. At the treatment plant, alum is added to cause microscopic impurities in the water to clump together, resulting in larger particles that can more easily be removed by filtration. The water flows by gravity through six large filters. The filtered water flows into a reservoir where chlorine is added for disinfection and the pH adjusted. Water leaves the plant, flowing by gravity to pumping stations then delivered to one of 14 covered reservoirs. From these reservoirs, the water flows to the homes and businesses of Bellingham.