

ANNUAL WATER QUALITY REPORT

Water testing performed in 2007



Presented By:

SILVERDALE WATER DISTRICT

PWS ID#: WA793006

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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.

Substances That Might be in Drinking Water

In order to ensure that tap water is safe to drink, the U.S. EPA and/or the Washington state board of health prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

Silverdale Water District's customers are fortunate because we enjoy an abundant groundwater supply. Our 15 wells are drilled in three distinct zones: the Shallow Aquifer, the Sea Level Aquifer, and the Deep Aquifer. These aquifers are not exposed to air and are not subject to direct pollution and contamination. In fact, groundwater is the highest quality water available to meet the public health demand of water intended for human consumption.

The state has determined that Silverdale Water District's sources have a low to moderate risk of contamination. A copy of the assessment is available at the district office.

“WELL-INFORMED CUSTOMERS ARE OUR BEST ALLIES.”

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity;
- Turn off the tap when brushing your teeth;
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year;
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year;
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet at 9:00 a.m. on the first and third Thursday of each month at 5300 NW Newberry Hill Rd. Silverdale WA, 98383.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhme) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Washington State Department of Health has a Web site (www.doh.wa.gov/ehp/dw) that provides complete and current information on water issues in Washington, including valuable information about our watershed.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Skip Beahm, Operations Manager, at (360) 447-3500.

Lead and Drinking Water

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. Silverdale 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 from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.



Contamination from Cross-Connections



Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's Web site at www.epa.gov/safewater/crossconnection.html. You can also call the Safe Drinking Water Hotline at (800) 426-4791.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resource Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25% of bottled water is actually just bottled tap water (40% according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70% of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.



Water Wise Landscape Tips

A slight adjustment to your lawn mower can dramatically improve lawn survival during a drought and reduces water demand. Encourage deeper rooting by raising the mower blade during dry weather. Maintain sharp mower blades as dull blades shred leaf tips, causing the turf to use more water than necessary.

- Aerate your lawn. Aeration improves the movement of water and nutrients into the soil, decreases run-off, and encourages the roots of grass to grow deeply and to become drought tolerant;
- Soak, don't sprinkle. When you water, aim the nozzle at the base of the plants so more water will reach the roots;
- Plant choice is important. Choose water wise plants that can tolerate heat and dry spells, better yet choose native plants that also reduce the need for chemical applications and naturally grow healthy plant material.
- Maintain healthy soil. Healthy soil holds water well, provides nutrients, is aerated to allow water to penetrate several inches, and has large particles that allow water to flow and be absorbed.
- Think of mulch as sun block for plant roots. Just two to four inches of mulch can substantially retain soil moisture, slow evaporation, and protect roots from overheating, which is especially helpful to ornamentals and vegetables.
- Control your weeds by pulling them early and applying mulch. Weeds are thieves. They steal nutrients and water from your grass and other plants.
- Avoid heavy pruning. Pruning stimulates growth, so plants require more water. Make sure you prune your trees and shrubs in the dormant (winter) season before the summer weather season.
- Adding a light top dressing of compost or organic fertilizer does wonders. It reduces thatch buildup on lawns, improves soil texture, and increases root mass and surface area. "Top dress" your lawn and plant areas early in the year when conditions are wet. Avoid high Nitrogen and Phosphorus fertilizers as these can degrade water quality.

Irrigation Systems Tips

- Don't water in the heat of the day. You will only lose water to evaporation. If you have an automatic system, set it to come on in the evening or early morning.
- Turn off the sprinkler systems when it rains. Install an inexpensive rain sensor shut-off switch.
- Check to see if your lawn sprinklers are working properly. Test your sprinkler by making sure it goes edge to edge and doesn't water the street instead of your lawn. Sometimes all it takes is to adjust the sprinkler head to make sure it has uniformity.
- Using more efficient irrigation techniques. Drip irrigation systems, automatic controllers with rainfall sensors, and soaker hoses all successfully achieve more efficient irrigation and reduce water loss from evaporation. Individual plants that are visibly stressed also benefit from hand watering.
- Lawns, plants, and shrubs need no more than one inch of water every 7 to 10 days to remain healthy. To determine one inch of water, place a small shallow pan in the path of your lawn sprinkler. Monitor the time that it takes to fill the pan to a one inch depth. Use this as a guide for each sprinkler in your yard. If water begins to run off before one inch is collected, turn off the water and allow the soil to absorb the surface water before returning to finish the one inch accumulation.

Sampling Results

We are pleased to report that during the last year, the water delivered to your home or business complied with, or did better than, all state and federal requirements. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentration of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was collected.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Arsenic ¹ (ppb)	2007	10	0	6	3–6	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Nitrate (ppm)	2007	10	10	1.61	1.41–1.61	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Tap water samples were collected from 30 sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2006	1.3	1.3	0.19	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2006	15	0	4	1	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Definitions

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

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.

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.

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.

NA: Not applicable

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).