2015 ANNUAL WATER QUALITY REPORT

City of Ocean Shores
Water Department
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Dear Customer:

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services that the City of Ocean Shores delivers to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water at a reasonable cost. Please read this report to learn more about the City Water Department's efforts to continually improve the water treatment process and protect our water resources. We are pleased to report our drinking water is safe and exceeds federal and state requirements.

ABOUT YOUR DRINKING WATER

The City owns a number of wells from which it draws its water supply. The primary source of water comes from a shallow aquifer located approximately 95 feet below the surface. Water is treated using the City's water treatment plant, using the latest MIEX® technology to remove dissolved organic carbon from the groundwater.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amounts of certain contaminants in water provided by public water systems. Your water is treated according to EPA and State Department of Health (DOH) regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protections for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. 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 animal and human activity. The presence of contaminants does not necessarily indicate that the 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 (800-426-4791).

Contaminants that are monitored and tested for include:

- Microbial contaminants, such as viruses and bacteria, which may come from wastewater treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides or herbicides, which may come from a variety of agricultural or residential uses.
- Radioactive contaminants, which are naturally occurring.
- Organic chemical contaminants, including by-products of industrial processes and petroleum production, gas stations, urban stormwater runoff, and septic systems.

The presence of contaminants does not necessarily indicate that the water poses a health risk. 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. Environmental Protection Agency and Centers for Disease Control (EPA/CDC) guidelines on appropriate means to lessen the infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline.

This information can be made available to accommodate people with disabilities or those needing translation into other languages.

WATER USE EFFICIENCY

The City has adopted a Goal for Water Use Efficiency as part of the Water System Planning process. The State's Municipal Water Law requires public water utilities to adopt a measurable goal for water efficiency, and track its progress towards meeting the goal. This new requirement is fulfilled as a part of the Ocean Shores Water System Plan Update. The Water System Plan defines our goal as 1% reduction per household per year.

As part of the Water Use Efficiency Rule, Ocean Shores has been closely monitoring the Distribution System Leakage (DSL) rate which is required to be under 10% over a three year running average. Water used by the City in its operations can include flushing for water quality (see Page 4), fire hydrant testing, tank cleaning, and water used for the treatment process. These uses do not count towards the system's DSL. Water Department staff has begun accounting for these water uses, and the DSL rate reported in previous years to DOH has been substantially reduced. The water production data to the right summarizes the distribution of the 264 million gallons of water produced by Ocean Shores in 2014.

2014 WATER PRODUCTION DATA

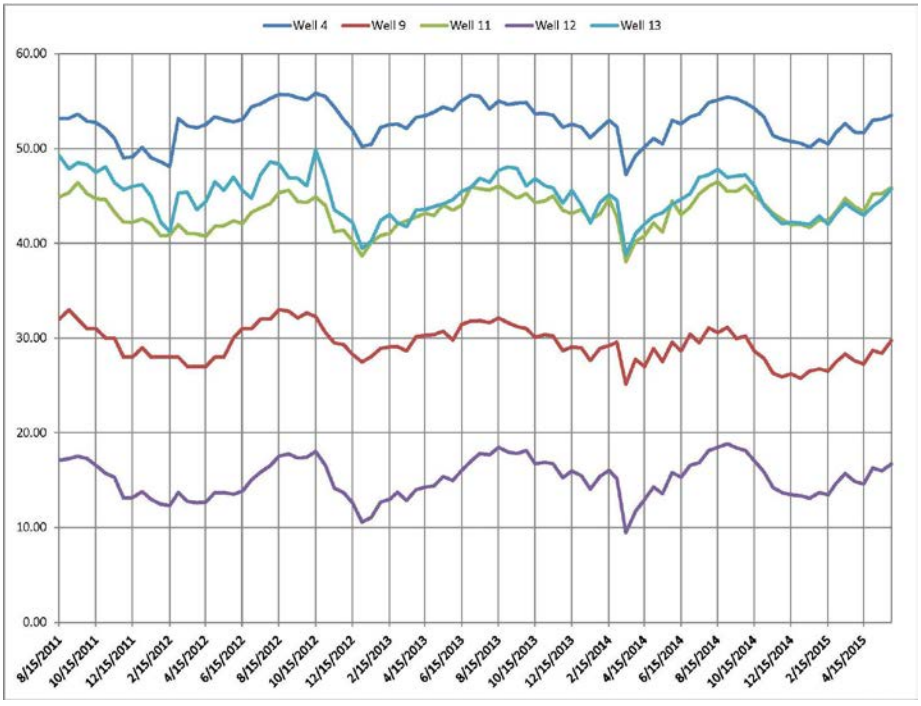
	Production (Million Gallons)	% of Total Production
Billed Water Consumption	175.630	66.4%
Treatment Plant Process Water	43.533	16.5%
Flushing Activities / Main Breaks	4.803	1.8%
Fire Department Training / Response	2.002	0.8%
Known Meter Failure/Error	0.522	0.2%
Distribution System Leakage	37.864	14.3%
Total Water Production	**264.354**	**100%**

Only Tap Water Delivers℠

2015 DROUGHT EMERGENCY

Governor Jay Inslee declared a statewide drought emergency for Washington State on May 15, 2015. The emergency declaration is a result of the historic low snowpack levels and precipitation which contributes to low lake volumes, low river and stream flows, and reduced groundwater levels. Many water systems throughout the State must already make provisions for lower flow rates to account for these impacts.

You may be wondering how this affects Ocean Shores. The Washington State Department of Health identifies vulnerable systems as those that depend on surface water sources, those that depend on local rainfall, systems in coastal and island areas, and those with shallow wells and springs (less than 150 feet). While we meet many of these vulnerable characteristics, the data we have been collecting since 2011 does not raise any significant concern at this time. The figure shown to the right identifies the water level below the ground surface when we are operating the well field. When comparing the current water levels (on the right side of the chart) to historical values, we can see that our water levels are consistent with the seasonal variations seen on an annual basis.



For more information from the Department of Health and the Department of Ecology, please visit the following websites:
http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/DrinkingWaterEmergencies/DroughtInformation
http://www.ecy.wa.gov/drought/

2014 WATER QUALITY SAMPLING RESULTS

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCL	Common Source(s) of Contamination
Microbiological Contaminants					
1. Total Coliform Bacteria	N	None	PA	in 5% of monthly samples	Naturally present in the environment
2. Fecal coliform and *E.coli*	N	None	PA	routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	Human and animal fecal waste
Inorganic Contaminants — Primary MCLs					
18. Nitrate (as Nitrogen)	N	< 0.2	mg/L	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Physical Characteristics				
Substance	**Units**	**MCL**	**City Supply**	**Additional Information**
Color	Color Units	15	2	Suspended and dissolved particles in water influence color; may result from natural causes, human activity, dissolved organic matter, algae, dinoflagellates, phytoplankton, and soil runoff
Conductivity	umhos/cm	700	N/A	Affected by the presence of inorganic dissolved solids such as chloride, nitrate, sulfate, and phosphate anions as well as sodium, magnesium, calcium, iron, and aluminum cations
Total Dissolved Solids	mg/L	500	N/A	Comprised of inorganic salts (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides, and sulfates) and some small amounts of organic matter that are dissolved in water

WATER QUALITY TERMS AND DEFINITIONS

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water.
Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
Nephelometric Turbidity Unit (NTU) – Turbidity is a measure of how clear the water looks.
mg/L = milligram per liter
umhos/cm = micromhos per centimeter
1 ppm = 1,000 ppb
NA – Not Applicable during this monitoring period.
ND – Not Detected (lab analysis indicates the constituent is not present)
pCi/L — Picocuries per liter - picocuries per liter is a measure of the radioactivity in water
ppm – parts per million
ppb – parts per billion
mrem/yr – millirems per year (measure of radiation absorbed by the body)
MFL – million fibers per liter
PA – presence absence

Disinfection By-Products (DBPs)

Ocean Shores, like most water systems, adds chlorine to the drinking water to kill or inactivate harmful organisms that can cause various diseases through a process called disinfection. Chlorine can react with naturally occurring substances and over time form compounds known as disinfection byproducts (DBPs). The most common DBPs formed when chlorine is used are trihalomethanes (THMs) and haloacetic acids (HAAs). Common factors influencing the formation of DBPs include the type, dose rate, and residual concentration of the disinfectant, the contact time or water age, the concentration of organic material, the water temperature, and the water chemistry (pH and other organic material in the water).

Although, at present, there is no conclusive evidence showing DBPs in water is associated with cancer or other health effects, the United States Environmental Protection Agency (EPA) has initiated the Disinfection By-Products Rule, implemented in two stages, which is regulated by the Washington State Department of Health (DOH). Guidance provided by DOH indicates that DBPs are a chronic contaminant which only generates concern with a long term exposure above the maximum contaminant level (MCL). The MCL, as established by EPA, is 0.080 mg/L as an annual average for total trihalomethanes (TTHMs) and 0.060 mg/L as an annual average of all five haloacetic acids (HAA5s). Routine monitoring requirements for systems the size of Ocean Shores is to conduct one sample annually. In the event a MCL is exceeded, increased monitoring requirements in the form of quarterly sampling, is required for the following year.

In September 2014, the City conducted the routine annual compliance testing of DBPs. The sample results displayed elevated levels of TTHMs, triggering increased monitoring requirements. As a result of the elevated TTHMs, staff conducted additional investigative samples and reviewed a variety of capital and operational alternatives. Treatment effectiveness was also evaluated, which confirmed the MIEX resin is functioning as intended and not showing any signs of abnormal degradation. The results of the evaluation lead staff to believe that water age and strasfication in the storage facilities is the primary cause of the elevated TTHMs. In October 2014, staff made significant operational changes to the volume of water stored in the distribution system, the amount of water used prior to filling the reservoirs, and the frequency of disinfection. Staff is monitoring the DBP results closely and will recommend capital / mechanical control measures if operational controls appear to be ineffective.

2014-15 DBP SAMPLE RESULTS

		TTHMs (mg/L)		HAA5 (mg/L)	
Sample	**Location**	**Sample Result**	**MCL**	**Sample Result**	**MCL**
1	North	0.0873	0.0800	0.0113	0.0600
	South	0.0665	0.0800	0.0030	0.0600
2	North	0.0975	0.0800	N/A	0.0600
	South	0.0855	0.0800	N/A	0.0600
3	North	0.0500	0.0800	0.0054	0.0600
	South	0.0537	0.0800	0.0012	0.0600
4	North	0.0278	0.0800	0.0044	0.0600
	South	0.0536	0.0800	0.0012	0.0600
5	North	0.0278	0.0800	0.0044	0.0600
	South	0.0536	0.0800	0.0012	0.0600

Sample 1 – Initial Annual Compliance Sample (Sept. 2014)
Sample 2 – Investigative Sample (Oct. 2014)
Sample 3 – Quarterly Compliance Sample (Dec. 2014)
Sample 4 – Quarterly Compliance Sample (March 2015)
Sample 5 – Quarterly Compliance Sample (June 2015)

Information about lead and copper.

Lead and copper samples were not collected in 2014. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

YOUR FEEDBACK MATTERS

The City of Ocean Shores welcomes comments and suggestions about your water system and this water quality report. You are encouraged to attend the City Council meetings or to contact Water Department staff if you have any questions or concerns.

Water Department Phone Number: (360) 289-4210

Hours of Operation: 8:00 am – 4:30 pm
Monday through Friday

Flushing For Quality

From time to time, you will see members of our staff flushing the water mains through fire hydrants. This process is used to circulate the water throughout the distribution system. Areas with lower flow rates are especially prone to discoloration of water resulting from stagnant water conditions, a lack of chlorine residual, and create an environment that is conducive to the growth of iron and sulfur reducing bacteria. Flushing water throughout our distribution system remains the most cost effective method to maintain quality drinking water. Our goal is to flush the entire distribution system at least once per year until we are able to maintain delivery of the highest quality water in Ocean Shores.

Flushing A Water Main

A Tip For Maintaining Quality in Your Home

The City recommends draining and flushing your water heater tank annually to help minimize iron and sulfur reducing bacteria buildup that can occur when water in your tank is not used for an extended period of time. This is a particularly useful technique for home owners that are away from their homes for weeks or months at a time. Contact the City for more information and other water quality tips.

WATER SAVING TIPS

- Check your toilet for leaks annually. A leaky toilet can cost over $30 per month. Free leak detection kits will be made available at the City's Public Works office!
- Run the clothes washer and dishwasher with full loads.
- Reduce your shower time to 5 to 7 minutes. This can save over $10 per month per person.
- Minimize overspray of sprinklers onto paved surfaces.
- Match lawn watering to current weather conditions. Check with the City Water Department for other water saving landscaping tips.
- Consider installing an irrigation system with evapotranspiration controllers.
- Use a broom to sweep outdoors instead of a hose.

Water is an important and limited resource.

Please use it wisely.