OREGON CITY

# water quality REPORT 2016


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## The Data Presented

*is based on monitoring results from the calendar year 2015.*

*By reading this Report we hope you will:*

- understand where your drinking water comes from
- make informed choices about your drinking water
- understand how your everyday activities affect water quality
- make informed choices about improving water quality

**We are pleased to provide you with Oregon City's 2016 Annual Water Quality Report.**

**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.

**Contaminants 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, 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 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 can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the US Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) 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 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 at **1.800.426.4791**.

## Frequently Asked Questions

about your Drinking Water can be found at:

**www.orcity.org/publicworks/drinking-water-faqs**

*Water pressure in Oregon City's upper zone (Hilltop area) is determined by the water level in this 2 million gallon standpipe.*

# Multiple Barrier Approach

*Oregon City follows recommended programs and regulatory requirements that form a Multiple Barrier Approach that helps prevent contamination of drinking water from source to tap. There are four parts to this approach:*

## 1. RISK PREVENTION – focuses on protecting the drinking water source. It is far more cost-effective to prevent contamination than to remove or inactivate the contamination during treatment.

Oregon City's drinking water comes from the Clackamas River. The Clackamas River watershed begins on the slopes of Olallie Butte, near Mount Hood and flows nearly 83 miles from its headwaters (elevation 6,000 feet) to its confluence with the Willamette River near Clackamette Park (elevation 12 feet); it encompasses 940 square miles.

Unlike the City of Portland's protected Bull Run watershed, the Clackamas is a multi-use watershed with various users and ownership throughout the watershed. It crosses two counties and includes federal, state and private lands. Human activities such as construction, timber harvest, livestock management, fertilizer and pesticide use, if not performed responsibly, can degrade water quality. To learn more about contamination risks to our drinking water source go to the Source Water Assessment Report (April 15, 2003) at **www.orcity.org/sites/default/files/SWAR.pdf**.

The Clackamas River Water Providers (CRWP), **www.clackamasproviders.org**, is a coalition of the municipal water providers that get their drinking water from the Clackamas River and who are working together on water resource issues. Oregon City is a member of the CRWP through South Fork Water Board (SFWB). View the Drinking Water Protection Plan (2010) here **www.clackamasproviders.org/drinking-water-protection/**.

## 2. RISK MANAGEMENT – focuses on the protection provided by water treatment. This includes appropriate security arrangements and comprehensive plans for emergency response.

Water from the Clackamas River is turned into safe drinking water for Oregon City customers through a process called conventional treatment. This happens at the SFWB Treatment Plant, located in the Park Place area of Oregon City. Learn more about SFWB and the water treatment process by visiting their website at **www.sfwb.org**.

## 3. MONITORING and COMPLIANCE – proactively testing for contaminants during treatment and throughout the distribution system. It includes operating and maintaining the distribution system to effectively prevent contamination of the treated water as it flows to customers' taps.

Oregon City's drinking water is tested for more than 90 contaminants, as required by federal and state regulation. SFWB is responsible for all analysis of the raw and finish water at the treatment plant. The Water Quality section of Oregon City Public Works performs sampling for all distribution system requirements.

Our most recent test results are provided in the data tables included in this report. We are required to report only those substances that were present at detectable levels. You can view all monitoring results and compliance records by visiting the Oregon Health Authority SDWIS Data Online website: **https://yourwater.oregon.gov/** Search by water system name or ID number: **Oregon City – OR4101511** **South Fork Water Board – OR4100591**

Oregon City Water Division has several programs in place to ensure your drinking water maintains its high quality. Storage reservoirs are cleaned on a routine basis. Aging water lines in the system are prioritized for replacement. There is an on-going water main flushing program that also incorporates valve exercising and fire hydrant maintenance. Dead-end water mains are routinely flushed.

## 4. INDIVIDUAL ACTION – keeping customers informed and encouraging participation in activities that protect our drinking water from source to tap.

Providing this annual water quality report is one aspect of this barrier. As a water customer you have the right to know what is in your drinking water and where that water comes from. Understanding more about your drinking water will help you make informed choices. By knowing more about the process, and challenges, of providing safe, reliable drinking water, you can gain a greater appreciation for this valuable resource.

You are encouraged to participate in City decisions that may affect water quality. City Commission meetings are held at City Hall, 625 Center Street, Oregon City, the first and third Wednesday of each month, starting at 7:00 pm. Find meeting agenda information or watch archived videos of public meetings at **www.orcity.org**.

Oregon City water customers play a big part in helping to keep our drinking water safe by complying with the Cross Connection/Backflow Prevention Program (CC/BPP).

For more information about Oregon City's CC/BPP go to: **www.orcity.org/publicworks/cross-connection-backflow-prevention-program**

# Results of Monitoring for Regulated Contaminants

| Substance/Contaminant (Unit of Measure) | MCL (MRDL) | MCLG (MRDLG) | Oregon City Measurement or Average (Range) | Sample Date | Major Sources in Drinking Water | Violation? |
|---|---|---|---|---|---|---|
| **DISINFECTANT RESIDUAL, DISINFECTION BY-PRODUCTS, AND BY-PRODUCT PRECURSORS** | | | | | | |
| Chlorine (ppm) | (4) | (4) | 0.94 (0.26 - 1.55) | 2015 | Water additive used to control microbes | No |
| Haloacetic Acids (ppb) | 60 | N/A | 37.0* (19.9 - 51.8) | 2015 | By-product of disinfection with chlorine, combined with organic matter | No |
| Total Trihalomethanes (ppb) | 80 | N/A | 47.0* (28.2 - 62.8) | | | |
| Total Organic Carbon** *Raw Water* (ppm) | TT | - | 1.36 (0.90- 2.32) | 2015 | Naturally present in the environment | No |
| Total Organic Carbon** *Finish Water* (ppm) | TT | - | 0.82 (0.57 - 1.19) | | | |
| **MICROBIOLOGICAL CONTAMINANTS** | | | | | | |
| Total Coliform Bacteria (presence/absence) | 5% positive samples per month | 0 | 0 | 2015 (40 samples each month) | Naturally present in the environment | No |
| Turbidity *** (NTU) | TT = 0.3 in 95% of samples | - | (0.02 - 0.20) | 2015 | Soil runoff | No |
| **INORGANIC CONTAMINANTS** | | | | | | |
| Nitrate (ppm) | 10 | 10 | 0.214 | 2/17/15 | Fertilizer run-off, septic, sewage, erosion | No |
| Lead (ppb) (Tier 1 homes) | AL = 15 | 0 | 90th% = 3 | 2015 (Round 18) | Corrosion of household plumbing Erosion of natural deposits | No |
| Copper (ppm) (Tier 1 homes) | AL = 1.3 | 1.3 | 90th% = 0.056 | | | |
| **SECONDARY STANDARDS**** | | | | | | |
| Chloride (ppm) | 250 | - | 11 | 2/17/15 | Erosion of natural deposits | No |
| Iron (ppm) | 0.3 | - | 0.021 | | | |
| Sulfate (ppm) | 250 | - | 5.0 | | | |
| Total Dissolved Solids (ppm) | 500 | - | 74.0 | | | |
| Zinc (ppm) | 5 | - | 0.027 | | | |

** Highest Locational Running Annual Average is the highest calculated annual average at a single location.*

*** Total Organic Carbon (TOC) has no health effects. TOC provides a medium for the formation of disinfection by-products.*

**** Turbidity is a measure of cloudiness caused by suspended particles in the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. Turbidity is monitored continuously, every 2 hours during treatment plant operation. 100% of samples tested were below the treatment technique level of 0.3 NTU.*

***** Secondary standards are guidelines for contaminants that may cause aesthetic effects in drinking water.*

# Table 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.

**N/A:** Not Applicable. No maximum contaminant level goal has been set for disinfection by-products.

**NTU:** Nephelometric Turbidity Unit. A measurement of the water turbidity. Turbidity greater than 5 NTU is noticeable to the average person.

**ppb:** Parts per billion. A measure of the concentration of a substance in a given volume of water. One part per billion corresponds to one penny in $10,000,000.

**ppm:** Parts per million. A measure of the concentration of a substance in a given volume of water. One part per million corresponds to one penny in $10,000.

**TT:** Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.

**90th Percentile:** The highest result found in 90% of the samples when listed in order from the lowest to the highest results.

# 2015 System Improvements

Oregon City made distribution system improvements at the following locations in 2015:

| Project Name | Ductile Iron Pipe (Length in Feet) | | |
|---|---|---|---|
| *Pipe Diameter* | 4″ | 6″ | 8″ |
| Center St. Utility Upgrades | 48 | 36 | 738 |
| Downtown Alley (700 Block) Enhancements | 106 | | |
| Jersey Avenue | | 12 | 1000 |
| Linn Avenue | | | 18 |
| **Total (Length in Feet)** | **154** | **48** | **1756** |

# Important *Message from EPA*

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 at **1.800.426.4791**.

# Lead & Drinking Water

**... if present, elevated levels of lead can cause serious health problems.**

This is true especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. South Fork Water Board and Oregon City are 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**.

# Monitoring for Unregulated Contaminants

Monitoring for unregulated contaminants helps the EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants in the future.

| Substance/Contaminant (Unit of Measure) | MCL | Oregon City Measurement | Sample Date | Major Sources in Drinking Water |
|---|---|---|---|---|
| **UNREGULATED CONTAMINANTS** | | | | |
| Sodium (ppm) | 20* | 9.4 | 2/17/15 | Erosion of natural deposits; treatment additive ** |
| Bromodichloromethane (ppb) | – | 2.2 | 7/21/15 | By-product of chlorine disinfection, combined with organic matter |
| Chloroform (ppb) | – | 11.1 | | |

** Recommended maximum level.* *** Soda Ash is used for corrosion control.*

# The Third Unregulated Contaminant Monitoring Rule*

In May 2014, Oregon City began additional monitoring for unregulated contaminants, at two sites for four quarters, as required by EPA. Approximately 6,000 public water systems conducted this special monitoring to provide scientifically valid data on the occurrence of these contaminants. EPA uses this data to assess the number of people potentially being exposed and at what levels of exposure. The agency then uses this information to develop regulations for contaminants of concern. Oregon City water was tested for 21 contaminants; four were detected. The results for Sampling Event 4 (2/4/15) are listed below. Results for Sampling Events 1 – 3 were reported in the 2015 Annual Water Quality Report.

| Contaminant | Average (ppb) | Range (ppb) | Use or Source |
|---|---|---|---|
| **UCMR3*** | | | |
| Chlorate | 59 | 58 - 60 | Used as an agricultural defoliant or desiccant and in the production of chlorine dioxide |
| Hexavalent Chromium | 0.087 | 0.086 - 0.088 | Erosion of natural deposits; used in various manufacturing processes |
| Strontium | 36 | 33 - 39 | |
| Vanadium | 0.78 | N/A** | |

** Find more information about this rule:* ***http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3***
*** Both sample points had the same value of 0.78 ppb*

# Pollution Prevention

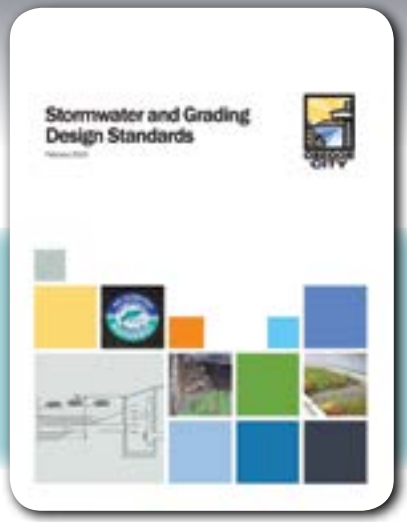
In Oregon City's urban setting impervious surfaces such as buildings, streets, parking lots and sidewalks prevent rain water and snow melt from soaking into the ground. Resulting stormwater runoff, if not managed properly, sends pollution directly into our wetlands, streams and rivers.

Oregon City continues to comply with the requirements of our National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Discharge Permit. For more information about our permit and to read our annual reports, submitted to the Oregon Department of Environmental Quality (DEQ) by November 1st each year, go to **http://www.orcity.org/publicworks/npdes-documents-page**.

Each of us contributes to stormwater pollution. Each of us can take steps to reduce stormwater pollution. What can you do to improve the health of Oregon City's streams and rivers?

**Lawn and garden care** – Skip the weed and feed. Chemicals are harmful to children and pets. Rain can wash chemicals off your lawn and into storm drains and streams. Use slow release fertilizers or compost to add nutrients. Native plants need less water and maintenance. Learn more here: **http://www.oregonmetro.gov/index.cfm/go/by.web/id=24309**
**http://extension.oregonstate.edu/gardening/**

**Vehicle care** – Maintain your vehicles to reduce oil and fluid leaks. Consider using EcoBiz-certified mechanics who use environmentally safe and healthy practices. Use a commercial car wash or wash your vehicle on the lawn to prevent runoff of soap and grime. **http://www.ecobiz.org**.




*Oregon City's updated Stormwater and Grading Design Standards encourages the use of low impact development facilities which, like the rain garden shown above, help improve water quality in our rivers and streams. Find the new standards here:* ***http://www.orcity.org/publicworks/stormwater-and-grading-design-standards.***

**Roof treatments** – Use alternatives to chemical treatment for moss and lichen removal. Typical chemical treatments contain copper, zinc and iron sulfate metals that are harmful to our waterways and aquatic life. Prevent moss growth by keeping debris and leaves off the roof; sweep or use a blower to remove debris once or twice a year. Prune back overhanging tree branches to reduce shade and moisture – this will slow moss buildup.

**Pressure washing** – Be stream friendly when cleaning your home, deck, sidewalk and driveway. Pollutants from cleaning activities can flow into storm drains and ditches directly into our rivers and streams. Sweep sidewalks and driveways and place the sweepings into the garbage. If you do pressure wash, divert the runoff toward grassy or planted areas.

**Pick up after your pets** – Proper disposal of pet waste helps to minimize bacteria in our city's streams. Pet waste can contain pathogens such as Giardia, E. coli, Salmonella and Campylobacter – these can cause illness in humans, especially children and the elderly. Always pick up after your pet when on walks, avoid children's play areas, and remember to pick up in your own yard, too.

**Does a stream flow through your property?** Learn what you can do to protect and improve the vegetation and trees alongside the water. A healthy riparian area has many benefits, including filtering sediment and pollutants from stormwater runoff and providing shade to cool stream water temperature. Elevated water temperature can negatively impact coldwater fish and other coldwater aquatic species. Visit **http://conservationdistrict.org/resources/stream** for more information.

THE RIVER STARTS HERE

*http://theriverstartshere.org*

*To report illegal dumping or to participate in our Catch Basin Marking & Stenciling Program call 503.657.8241.*

**Oregon City Public Works**

122 South Center St.
Oregon City, OR
97045-2935

# YOUR water quality 2016

данный рапорт содержит важную инФормацию о вашей питьевой воде. переведите его или проконсультируйтесь с тем, кто его понимает.

Este informe contiene información muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien.

## Resources

*Our drinking water source- the Clackamas River*

- City of Oregon City: www.orcity.org
- City Hall *(625 Center Street)*: 503.657.0891
- Oregon City Public Works *(122 S Center Street)*: 503.657.8241
- Questions about your utility bill: 503.657.8151
- To report a water leak: 503.657.8241
- OC Request!: http://user.govoutreach.com/oregoncity/faq.php
- South Fork Water Board: www.sfwb.org
- Clackamas River Water Providers: www.clackamasproviders.org, 503.723.3511
- Clackamas River Basin Council: www.clackamasriver.org, 503.303.4372
- Greater Oregon City Watershed Council: www.gocwc.org, 503.427.0439
- OR Health Authority: http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/Pages/index.aspx
- Oregon Department of Environmental Quality: www.oregon.gov/DEQ
- Environmental Protection Agency: www.epa.gov
- EPA Safe Drinking Water Hotline: 1.800.426.4791
- Metro: www.oregonmetro.gov
- Regional Coalition for Clean Rivers and Streams: http://theriverstartshere.org
- OSU Extension Service: www.extension.oregonstate.edu
- Clackamas Soil and Water Conservation District: www.conservationdistrict.org
- Drinking Water questions/concerns: Gail Johnson: gjohnson@orcity.org, 503.657.8241 x2107
- Stormwater questions/concerns: Eric Hand: ehand@orcity.org, 503.657.8241 x2102

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