

# Drinking Water Quality Report 2007

---



## Consumer Confidence Report

The City of Cottage Grove is pleased to present you with this year's annual Water Quality Report. The public water system serves approximately 9,300 citizens. This report is designed to inform you about the quality of drinking water and services we deliver to you every day. Our constant goal is to supply you with a reliable supply of high quality drinking water. We are committed to ensuring the quality of your water.

If you have any questions about this report or your water utility, please contact Ray Pardee, Water Production Superintendent, at: (541) 942-3349.

Cottage Grove's drinking water supply comes from surface water intakes located on Layng Creek and Prather Creek, which are within the Umpqua National Forest, and the Row River. These intakes are within the Coast Fork Willamette Sub-Basin of the Willamette Basin. The streams that contribute to the intakes have a total tributary area of approximately 371 square miles.

The sources of drinking water (both tap water and bottled water) can be from wells, streams, rivers, reservoirs or springs. As water travels over the surface of the land or through the ground it may pick up contaminants. Contaminants that may be present in source waters include: Microbial such as bacteria or viruses; Inorganic such as salts or metals; Pesticides and Herbicides; Organic chemicals such as by-products of industrial process and naturally occurring Radioactive contaminants.

The Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

The Food and Drug Administration (FDA) prescribes regulations for bottled water.

All of Cottage Grove's drinking water is treated before it is distributed to the consumer. The City's water treatment plant operators are state certified and complete educational courses annually to maintain certification and to assure technical competence in the most recent advances in water treatment.

The City of Cottage Grove recognizes the importance of identifying contaminants in the water. With the aid of online process analyzers, the operators monitor the water treatment process 24 hours a day, seven days a week, 365 days a year.

Water treatment plant operators sample and test the water, according to Federal and State laws, screening for any of the approximately 91 different regulated contaminants that could be in your drinking water.

The following tables show the results of Cottage Grove's water quality analysis. Every regulated contaminant that was detected in Cottage Grove's water from January 1, 2007 to December 31, 2007 is listed. The regulations do not require the water to be tested for all of the regulated contaminants each and every year. The data presented in the report are from the most recent testing done in accordance with the regulations. In these tables you may find many terms and abbreviations you might not be familiar with. To help you better understand the terms used in the tables, definitions are provided on the following page.

# Drinking Water Quality Report 2007



## DEFINITIONS



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

**Lead** - Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person’s total lead exposure. All potential sources of lead in a household should be identified and removed, replaced or reduced.

**Maximum Contaminant Level Goal (MCLG)** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG’s allow for a margin of safety.

**Maximum Contaminant Level (MCL)** – The highest level of a contaminant that is allowed in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.

**Maximum Residual Disinfectant Level Goal (MRDLG)** – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contamination.

**Maximum Residual Disinfectant Level (MRDL)** – The highest level of disinfectant allowed in drinking water.

**Nephelometric Turbidity Unit (NTU)** – Nephelometric turbidity unit is an empirical measure of the clarity of water. Turbidity in excess of 5 NTU is just visibly noticeable to the average person.

**Non-Detects (ND)** – Contaminant not detectable at laboratory testing limits.

**Parts Per Billion (PPB) or Micrograms Per Liter** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts Per Million (PPM) or Milligrams Per Liter** – One part per million corresponds to one minute in two years or a single penny in \$10,000.

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

**Turbidity** - Turbidity is a measure of the cloudiness of the water. The City monitors it because it is a good indicator of the effectiveness of the treatment process.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

### Key To Abbreviations In The Tables

<b>AL</b>	<b>Action Level</b>	<b>NTU</b>	<b>Nephelometric Turbidity Unit</b>
<b>MCL</b>	<b>Maximum Contaminant Level</b>	<b>PPB</b>	<b>Parts Per Billion</b>
<b>MCLG</b>	<b>Maximum Contaminant Level Goal</b>	<b>PPM</b>	<b>Parts Per Million</b>
<b>MRDLG</b>	<b>Maximum Residual Disinfectant Level Goal</b>	<b>TT</b>	<b>Treatment Technique</b>
<b>MRDL</b>	<b>Maximum Residual Disinfectant Level</b>	<b>RAA</b>	<b>Running Annual Average</b>
<b>ND</b>	<b>Non-Detects</b>	<b>N/A</b>	<b>Not Applicable</b>

# Drinking Water Quality Report 2007

The Layng Creek Water Treatment Plant supplies potable drinking water to all City of Cottage Grove customers.

**TABLE I**  
**Layng Creek Water Treatment Plant**

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity – highest single measurement	No	1	NTU	N/A	1 TT	Soil erosion
Turbidity – lowest monthly percentage	<b>Yes</b>	<b>90%</b>	NTU	N/A	95% <0.3 TT	Soil erosion
<b>Health Effects Language (for Turbidity)</b>						
Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.						
<b>Radiological Contaminants</b>						
Uranium – Layng Creek (most recent test date May 2003)	No	0.02	PPB	0	30	Erosion of natural deposits
Uranium – Prather Creek (most recent test date May 2003)	No	0.02	PPB	0	30	Erosion of natural deposits

The Row River Water Treatment Plant supplies potable drinking water to all City of Cottage Grove customers except those customers east of the City starting at the intersection of Layng Road and Row River Road and continuing eastward.

**TABLE II**  
**Row River Water Treatment Plant**

TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>						
Turbidity – highest single measurement	No	0.6	NTU	N/A	1 TT	Soil erosion
Turbidity – lowest monthly percentage	No	99%	NTU	N/A	95% <0.3 TT	Soil erosion
<b>Radiological Contaminants</b>						
Uranium (Most recent test date May 2003)	No	0.01	PPB	0	30	Erosion of natural deposits

# Drinking Water Quality Report 2007

**TABLE III**

*Water Distribution System*

<b>TEST RESULTS</b>						
Contaminant	Violation Y/N	Level Detected	Unit of Measure	MCLG	MCL	Likely Source of Contamination
<b>Inorganic Contaminants</b>						
Copper (most recent test date August 2006)	No	90 <sup>th</sup> % value= 0.190	PPM	1.3	AL = 1.3 0 sites exceeded the action level	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (most recent test date August 2006)	No	90 <sup>th</sup> % value = 5	PPB	0	AL = 15 2 sites exceeded the action level	Corrosion of household plumbing systems, erosion of natural deposits
<b>Disinfection Byproducts, Byproduct Precursors, and Disinfectant Residuals</b>						
TTHM (Total Trihalomethanes)	No	Range 23.5 - 29.5 RAA 26.5	PPB	N/A	80	By-product of drinking water disinfection
HAA5 (Haloacetic Acid)	No	Range 18.5 - 25.6 RAA 22.1	PPB	N/A	60	By-product of drinking water disinfection
Chlorine	No	Range 0.10 - 1.21 RAA 0.66	PPM	MRDLG 4	MRDL 4.0	Water additive used to control microbes
Finished Water TOC (Total Organic Carbon) Layng Creek WTP	No	Range 0.54 - 1.26 RAA 0.78	PPM	N/A	TT 2 PPM Finished Water	Naturally present in the environment
Finished Water TOC (Total Organic Carbon) Row River WTP	No	Range 0.77 - 1.14 RAA 0.90	PPM	N/A	TT 2 PPM Finished Water	Naturally present in the environment



# Drinking Water Quality Report 2007

Unregulated contaminants monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

**TABLE IV**

*Detected Levels of Unregulated Contaminants*

Contaminant	Unit of Measure	Layng Creek Plant Level Detected	Row River Plant Level Detected	Likely Source of Contaminant
<b>Inorganic Contaminants</b>				
Sodium (most recent test date July 2002)	PPM	4.99	2.88	Naturally present in the environment
Sulfate (most recent test date July 2002)	PPM	5.89	3.91	Naturally present in the environment
Hardness as Calcium Carbonate (CaCO <sub>3</sub> ) Finished Water	PPM	Avg = 19 Range = 12 - 28	Avg = 19 Range = 7 - 36	Naturally present in the environment
pH Finished Water	pH Units	Avg = 7.3 Range = 7.0 - 8.1	Avg = 7.3 Range = 7.0 - 8.5	Naturally present in the environment
Chloroform	PPB	Avg = 27.1 Range = 27.1 - 27.1	Avg = 21.3 Range = 21.3 - 21.3	By-product of drinking water disinfection
Bromodi-Chloromethane	PPB	Avg = 2.4 Range = 2.4 - 2.4	Avg = 2.1 Range = 2.1 - 2.1	By-product of drinking water disinfection
Dichloro-Acetic Acid	PPB	Avg = 2.7 Range = 2.7 - 2.7	Avg = 10.6 Range = 10.6 - 10.6	By-product of drinking water disinfection
Trichloro-Acetic Acid	PPB	Avg = 15.8 Range = 15.8 - 15.8	Avg = 15.1 Range = 15.1 - 15.1	By-product of drinking water disinfection

# Drinking Water Quality Report 2007

---

## Water Source Information

A Source Water Assessment has been completed by the Department of Environmental Quality (DEQ) to identify the surface areas (and/or subsurface areas) that supply water to the City of Cottage Grove's public water system intakes and to inventory the potential contaminant sources that may impact the water supply.

Potential contaminant sources or "sensitive areas" identified in the watershed include managed forestlands, campgrounds and recreational areas, nurseries, quarries, several parks, residential areas with septic systems and wells, gas stations (currently active and historic), a former mill, and the drinking water treatment plants.

These "sensitive areas" are the main existing potential sources of contamination that could, if improperly managed or released, impact the water quality in the watershed.

The information in this assessment provides a basis for prioritizing areas in and around our community that are most vulnerable to potential impacts and can be used by the City of Cottage Grove community to develop a voluntary Drinking Water Protection Plan. Assessment was completed to provide information that the City of Cottage Grove's public water system staff/operators, consumers, and community citizens can use to begin developing strategies to protect the source of their drinking water, and to minimize future public expenditures for drinking water treatment.

The City of Cottage Grove's Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at: **Cottage Grove Public Library, 700 East Gibbs Avenue.**



## Violations

For the month of April the City's Layng Creek Water Treatment Plant violated the Maximum Contaminant Level (MCL of 95% <0.3) Drinking Water Standard for Turbidity. The standard was exceeded by 10%. The standard was exceeded due to additional turbidity in the source water following heavy rainfall and a lack of modern automation. The City is in the process of discontinuing use of this treatment plant.

Turbidity has no health effects. However, inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites which can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

All sources of water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. Drinking water, including bottled water, may be reasonably 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).**

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 provider. 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).**

# Drinking Water Quality Report 2007

---

## Additional Information

We want our valued customers to be informed about their water quality. If you want to learn more, please attend any of our regularly scheduled City Council meetings. They are held on the second and fourth Monday of each month at 7:30 p.m. in the City Hall Council Chambers.

The City of Cottage Grove considers it our paramount responsibility to supply safe water for the health and future of our community. Please call our office if you have any questions, (541) 942-3349 or visit our web site at: [www.cottagegrove.org](http://www.cottagegrove.org)

Additional information can be obtained from the following websites:

1. Environmental Protection Agency at: [www.epa.gov/safewater/](http://www.epa.gov/safewater/)
2. Department of Human Services/Drinking Water Program at: [www.ohd.hr.state.or.us/dwp/](http://www.ohd.hr.state.or.us/dwp/)
3. National Sanitation Foundation at: [www.nsf.org](http://www.nsf.org) or call 1-877-8NSF-HELP
4. American Water Works Association (AWWA): [www.drinktap.org](http://www.drinktap.org) and [www.awwa.org](http://www.awwa.org)

## Water System Planning and Improvements

The City's water production facilities are currently comprised of two (2) water treatment plants, which produce the City's drinking water supply from four (4) separate surface water intakes. The Layng Creek water treatment plant diverts water from Layng and Prather Creeks, and the Row River water treatment plant diverts water from two locations on the Row River.

The Layng Creek water treatment plant is located approximately 20 miles east of Cottage Grove, and treated water from that treatment plant is conveyed to the City through an aging transmission line that was constructed in the mid 1940's. The City is currently under a compliance order to upgrade its water production facilities because the Layng Creek treatment plant is not capable of treating drinking water 100% of the time to public drinking water standards required by the Safe Drinking Water Act. Therefore, the City must upgrade its water production facilities in order to regularly be in compliance with drinking water

requirements. The Layng Creek treatment plant and transmission line are both at the end of their useful life.

It has been the City's preference to replace the Layng Creek treatment plant and continue to produce drinking water from Layng Creek; however, based on construction costs, the Layng Creek facilities cannot be replaced cost effectively at their current locations. So, the Layng Creek treatment plant is scheduled to be abandoned by late 2008. Upon abandonment of the Layng Creek facilities, it will be necessary for the City to replace the Layng Creek drinking water production capacity, which will end with the abandonment.

The City has performed an engineering evaluation of its water production needs, and determined that the best and most cost effective option for replacement of the Layng Creek water production facilities is to increase the water production capacity of the Row River plant.

The Row River plant is a treatment facility that was constructed in 1992, and it is located at the east boundary of the City's Urban Growth Boundary. Treated water from the Row River plant is currently filtered and disinfected prior to being pumped into the City's reservoirs, where it is held until required for use in the water distribution system.

The Row River water treatment plant was originally constructed with expansion capabilities in mind. The first phase improvements that were completed in 1992 included the installation of only one (1) treatment unit capable of treating 2 million gallons of water per day. The planned improvements for this expansion phase will replace the current 2 million gallon a day sand filtration unit with membrane treatment units that can treat 4 million gallons a day. The ultimate build-out of the plant is 8 million gallons a day. A new pipeline was constructed last summer from the City's distribution system, at Currin Connector and Row River Road, to approximately Layng Road and Row River Road. The new Row River water treatment plant improvements are now under construction and are approximately 45% complete. The project is being funded by low interest loans through the Safe Drinking Water and Water/Wastewater loan programs administered through the Oregon Economic and Community Development Department. Loan agreements have been executed for the planned improvements to the Row River water treatment plant, and associated pipeline

# Drinking Water Quality Report 2007

---

replacement project, with an estimated completion cost of approximately \$9,500,000.