

# 2008 City of Manzanita - Water Quality Report

**This report provides results of the City's water quality monitoring program for 2008. Some of the information in the table is rather technical, so a glossary of abbreviations is included. If after reading the report, you have questions or would like more information, please call Bret Siler in the Public Works Department at ... (503) 368-5347.**



## **Is my water safe?**

Last year, Manzanita drinking water met all U.S. Environmental Protection Agency (EPA) and State of Oregon drinking water health standards.

We currently test and/or monitor over 97 compounds as required by Federal and State regulations.

The compounds that were detected in our water are reported each year to our customers in this report. Over the past 5 years these include Turbidity, coliform, chlorine, nitrate, asbestos, lead, copper and TTHM's. All of these compounds are well below the limits as set forth by the US EPA. Detailed summary tables of water quality data are presented later in this document. We are proud to report that our system has not violated a maximum contaminant level or any other water quality standard.

## **Information on Drinking Water from EPA!**

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

## **Where does my water come from?**

Manzanita utilizes two sources of water to feed our water system;

**1) Anderson Creek** – Is a surface water source near the North Fork of the Nehalem River. The surface water source is filtered thru our state of the art "Memcor Microfiltration System. The Anderson Creek surface water source is on property owned by the City of Nehalem.

**2) Foss Road Wells** – Is a groundwater source near the South Fork of the Nehalem River. The groundwater source uses the natural processes of the earth for filtration, and does not require additional filtration under existing Federal and State regulations. In the event future regulations require a change, the well water can be directed thru the microfiltration system.

The Foss Road groundwater source is on property owned by the City of Wheeler.

Both sources were constructed and are maintained by the City of Manzanita in conjunction with Easements and Intergovernmental Agreements with the cities of Nehalem and Wheeler.

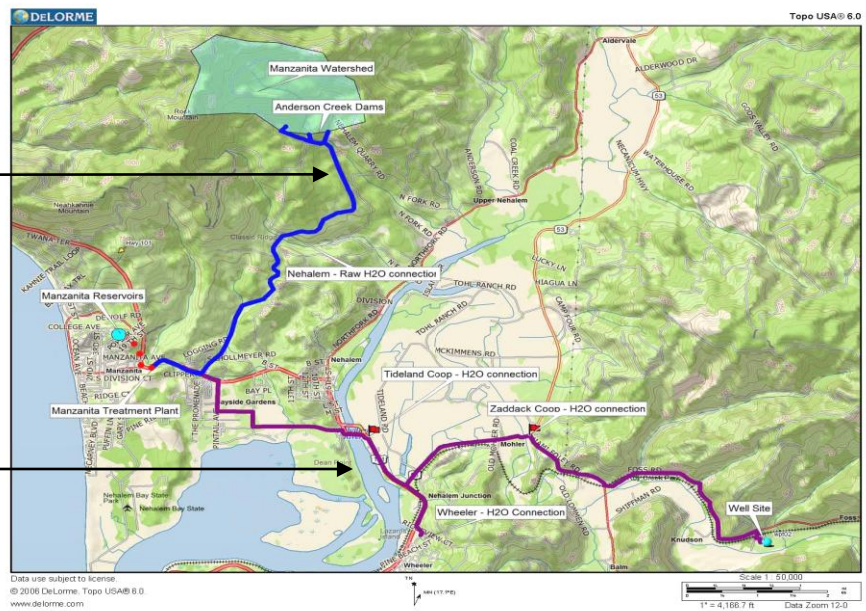
## **Source water assessment and its availability**

Source water assessments have been completed for both above water sources by the Department of Environmental Quality (DEQ) and Oregon Health Division / Drinking Water Program (OHD/DWP), staff and consultants. Additional information regarding these assessments is available by contacting the Manzanita Public Works Department.

## Manzanita Water Transmission system.

Transmission mains from the Surface source, Anderson Creek, \_\_\_\_\_ were originally installed in 1968.

Transmission mains from the Groundwater wells on Foss Rd. \_\_\_\_\_ These transmission mains were installed in 2002 and 2003, as part of the Treatment Plant and Well Site Project.



## Why are there contaminants in my drinking water?

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 may include;*

- <sup>1</sup> Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- <sup>2</sup> Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming;
- <sup>3</sup> Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- <sup>4</sup> 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 storm water runoff, and septic systems;
- <sup>5</sup> Radioactive contaminants, 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, EPA prescribes regulations that 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.

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. City of Manzanita is responsible for providing high quality drinking water, but cannot control the variety of materials used in customer 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 <http://www.epa.gov/safewater/lead>.

## Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

## How can I get involved?

We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled council meetings. They are held the first Wednesday of each month, starting at 7:00 pm, in the City Council Chambers at 543 Laneda Avenue, Manzanita, OR.

In addition individuals or groups can arrange tours of our facilities by contacting the City Manager at (503) 368-5343.

# Water Quality Data Table

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. ... {Please see next page for Unit descriptions}

<u>Contaminants</u>	<u>MCLG</u> <u>or</u> <u>MRDLG</u>	<u>MCL,</u> <u>TT, or</u> <u>MRDL</u>	<u>Your</u> <u>Water</u>	<u>Range</u> <u>Low</u> <u>High</u>	<u>Detect</u> <u>Sample</u> <u>Date</u>	<u>Violation?</u>	<u>Typical Source</u>
<b>Disinfectants &amp; Disinfection By-Products ... {Chlorine tested continuously ... TTHM tested yearly}</b> (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)							
Total Chlorine Residual (sodium hypochlorite)	4	4	<b>0.5</b>	0.2 1.2	2008	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	n/a	80	<b>3.9</b>	n/a	2008	No	By-product of drinking water disinfection

<b>Inorganic Contaminants ...</b>							
Asbestos (MFL)	7	7	<b>0.08</b>	n/a	2007	No	Decay of asbestos cement water mains; Erosion of natural deposits
Nitrate [measured as Nitrogen] (ppm)	10	10	<b>1.7</b>	0.6 1.7	2008	No	Runoff from fertilizer use; Erosion of natural deposits
Sodium (ppm)	No Standard	20 (URC advisory)	<b>5.9</b>	n/a	2008	No	Added to water during treatment and erosion of natural deposits.

<b>Microbiological Contaminants ... {Coliform/E.coli tested monthly ... Turbidity tested continuously}</b>							
A Coliform violation occurs when a routine sample and a repeat sample, in any given month, are total coliform positive, and one is also fecal coliform or E. coli positive.							
Total Coliform (positive samples/month)	0	1	<b>0</b>	n/a	2008	No	Naturally present in the environment
Fecal Coliform/E. coli (positive samples/year)	0	0	<b>0</b>	n/a	2008	No	Animal and human fecal waste
Turbidity (NTU) <b>100%</b> of the samples were below the TT value of (1) Note: A value above of less than 95% constitutes a TT violation. The highest single Turbidity measurement was <b>0.029</b> NTU. ... Any measurement in excess of <b>5</b> NTU is a violation.					2008	No	Soil runoff

<b>Radioactive Contaminates</b>							
<b>This data is the most recent monitoring done in compliance with regulations. - {Next test results due in late 2009}</b>							
Uranium (ug/L)	0	30	<b>0.009</b>	0.006 0.009	2003	No	Erosion of natural deposits

<b>Lead &amp; Copper</b>	<b>Action</b>	<b>Highest</b>	<b>Last</b>	<b># Samples</b>	<b>Violation?</b>	<b>Typical Source</b>	
<i>Tested in homes every 3 years</i>	<b>MCLG</b>	<b>Level</b>	<b>Tested</b>	<b>Test</b>	<b>Exceeding</b>		
<b>Test of residential homes</b>			<b>Sample</b>	<b>Date</b>	<b>Action Level</b>		
Copper - action level at consumer taps (ppm)	1.3	1.3	<b>0.7</b>	2007	0	No	Corrosion of household plumbing systems;
Lead - action level at consumer taps (ppb)	0	15	<b>2</b>	2007	0	No	Corrosion of household plumbing systems;

In addition to the above tested compounds, the city also tested for and had **NO** Detection of the following;

- 15 IOC's ... Inorganic compounds
- 21 VOC's ... Volatile Organic Chemicals
- 42 SOC's ... Synthetic Organic Compounds
- 5 DBP's ... Disinfection Byproducts
- 2 Radionuclides

Additional information on testing requirements, can be found at;  
<http://www.oregon.gov/DHS/ph/dwp/>



<b>Unit Descriptions</b>	
<b><u>Term</u></b>	<b><u>Definition</u></b>
ug/L	ug/L : Number of micrograms of substance in one liter of water
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
MFL	MFL: million fibers per liter, used to measure asbestos concentration
NTU	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
n/a	n/a: not applicable
<b>Important Drinking Water Definitions</b>	
<b><u>Term</u></b>	<b><u>Definition</u></b>
MCLG	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.
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection 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.
MRDL	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.

**For more information please contact:**

Public Works Director Bret Siler  
 Phone: 503 368-5347  
 Fax: 503 368-5198  
 Email: manzpw@nehalemtnet.net  
 Web: <http://ci.manzanita.or.us/>

## Memcor Microfiltration System



The state of the art Microfiltration treatment system cleans our surface water by removing sub-micron sized particles. This includes fine sediments, bacteria and viruses including giardia and cryptosporidium!

## Water System Safety - Backflow & Cross Connection Program

State and federal governments strictly regulate the quality of water the City of Manzanita provides its customers. Our job is to be sure that only potable water reaches our customers plumbing systems. As a part of this job, the City is required to have a State Certified - Cross Connection Specialist, with enabling ordinances, and a written, ongoing “Cross Connection/Backflow” inspection and testing program.

Most water systems in the United States and Canada have very good sources of water and sophisticated filtration facilities to treat water to meet their needs. Many millions of dollars are spent to make the water potable before it enters the distribution systems, so most water purveyors assume their supply is not in jeopardy from this point on. Studies have proven this may be compromised. Some water systems become contaminated after the water is treated through unprotected cross connections.

### What is a Cross Connection?

Cross connection means a point in the plumbing system where the potable water supply is connected directly, indirectly or can be connected directly to a non-potable water source. Wherever an unprotected cross connection exists, backflow may occur due to either backsiphonage or backpressure into the drinking water supply.

### Why be concerned?

Cross connections are inadvertently installed each day in the United States by homeowners, landscapers, and others who are unaware of the problem they have created. Death, illness, contaminated food products and mechanical damage can be inflicted on people and equipment due to these connections.

In Manzanita the most common “cross connections” found include, improperly installed sprinkler systems, chemical sprayers connected to hoses, unprotected booster pumps, and fill hoses left draped into hot tubs.

### How does the City handle possible cross connections!

We inspect locations likely to be a source of cross connection hazards and if needed require installation of backflow protection devices by the property owners, at a level most likely to provide the highest degree of protection to the system, in the most cost efficient manner for our customer, based on the possible hazard level.

The Public Works Department, Cross Connection Specialist is responsible for inspection and monitoring of the water system and connections served by the City of Manzanita Water System. He is also responsible for tracking the required yearly tests of installed devices, and correlates the data for the required reports, due each year, by Federal and State regulations.

### What is required if a hazard is found during inspection!

Chapter 0333-061-0700 of the Oregon Administrative Rules which governs public water systems includes regulations that must be followed regarding potential cross connections.

#### If a potential or known hazard exists, the Property owner must;

- 1) Install or have installed an approved backflow device. (Normally by a licensed plumber)
- 2) Have the backflow device tested at installation, and a minimum of annually thereafter. A state certified backflow tester must perform these tests and send copies of the test report to the local water provider. .... The device must work properly to pass the test. (A list of certified testers and approved devices is available through the Manzanita Water Department.)

#### The local water provider (such as Manzanita Water Department) must;

- 1) Inspect and monitor the water system and connections for possible backflow conditions.
- 2) Set up and maintain records on each backflow device connected to the City Water System. (The city sends out yearly reminders for annual testing).
- 3) Enforce all federal, state and local regulations regarding backflow device installation. (Including disconnection of the water service for non-compliance).
- 4) Complete and send the annual Backflow Reports to the State as required by regulation.

For additional information about cross connections device installations and informational pamphlets on the proper installation methods for sprinkler irrigation systems, please contact Manzanita Public Works at (503) 368-5347!

### Water Trivia!

**1.** The United States uses some 450 billions of water every day. Only about 6% of that --- 27 billion gallons --- is taken by public water supply systems. The U.S. daily average of water pumped by those systems is 185 gallons per person.

**2.** Indoor water use statistics vary from family to family and in various parts of the country, but they average out pretty reliably. Nearly 40% gets flushed down toilets, more than 30 % is used in showers and baths, the laundry and dishwashing take about 15%, leaks claim 5% or more, and less than 1% is actually consumed by humans, which leaves about 9% for everything else.

## Conservation Facts & Figures

Water conservation is something we all should practice. Except for the air we breathe, water is the single most important element in our lives. It's too precious to waste. Here are some useful facts and simple suggestions that will help you understand more about water. They'll help you save hundreds, even thousands, of gallons per month without any great inconvenience.

- 1) If everyone in the United States flushed the toilet just one less time per day, we could save a lake full of water about a mile long, a mile wide, and four feet deep every day.
- 2) Every glass of water brought to your table in a restaurant requires another two glasses of water to wash and rinse the glass. Since nearly 70 million meals are served each day in U.S. restaurants, we'd save more than 26 million gallons of water if only one person in four declined the complimentary glassful.
- 3) If you have a lawn, chances are it's your biggest water gobbler. Typically, at least 50% of water consumed by households is used outdoors. Inside your house, bathroom facilities claim nearly 75% of the water used.
- 4) Little leaks add up in a hurry. A faucet drip or invisible toilet leak that totals only two tablespoons a minute comes to 15 gallons a day. That's 105 gallons a week and 5,460 wasted gallons of water a year.
- 5) Is it possible your toilet has a secret leak? You can test it by putting 10 drops of food coloring in the tank. Don't flush for 15 minutes. If the colored water shows up in the bowl, the tank is leaking.
- 6) If everyone in the United States could manage to use just one less gallon of water per shower every day, we could save some 85 billion gallons per year. How do you do it? By keeping the shower pressure lower or by making your showers a few seconds shorter.
- 7) Select the appropriate water level for the size of your load of laundry. Most washers now offer preset water levels for small, medium, and large loads. Use full loads whenever possible.
- 8) Do you wash your car at home? Please don't let the hose run. Instead, wet the car thoroughly, then turn off the hose while you swab the car with soapy water from a bucket. Use the hose again for a final rinse. A trigger nozzle is best because it turns off automatically.
- 9) What if there's a catastrophe? What if a water pipe bursts in your home? Do you know where the master shut-off valve is located? You could experience terrible flooding and property damage, not to mention immense water waste, if you don't locate the valve and mark it for quick identification. Be sure to show everyone in the family where it is.
- 10) Do your lawn sprinkling early in the morning, between 4 and 6 a.m., when water demand is low. After about 10 a.m., both heat and evaporation go up, robbing the lawn of moisture. Sprinkling at night is fine for dry climates, but in humid climates the relatively cool, moist conditions can create an ideal environment for lawn diseases to develop.
- 11) Adjust lawn watering to the weather. Following a heavy rain, for instance, skip your regular watering day until the grass needs it again. Teach the family how to turn off an automatic sprinkler system in case a storm comes up during the sprinkling cycle.



Remember: water plus wind equals waste! If you water when it's windy, you will find the water going everywhere except where you want it to go! (Wind also causes water to evaporate quickly.)