Protecting the McKenzie River is a Top Priority

The McKenzie River, which originates in the cold, pure waters of Clear Lake high in the Cascade Mountains, supplies Eugene residents with their drinking water. Almost 20 years ago, Eugene Water & Electric Board completed a source water assessment, which identified development, urban runoff and hazardous material transport as primary threats to water quality.

Subsequently, EWEB developed a comprehensive drinking water source protection program to protect the world-renown McKenzie River and encourage good stewardship within the McKenzie Watershed.

Customer surveys consistently place a high value on drinking water quality, and we remain committed to protecting Eugene’s sole source of drinking water. Staff recently presented a new 10-year strategic plan for source water protection to the EWEB Board of Commissioners. This plan focuses on: water quality and watershed health monitoring; emergency response to hazardous material spills; urban runoff mitigation; riparian forest protection and restoration; and other programs that help protect this vital water source.

EWEB source protection staff are working closely with technicians at our Hayden Bridge Water Filtration Plant to monitor water quality from “source to tap” in order to understand long-term trends and effectively treat and manage the quality of your drinking water.

The 10-year source protection strategic plan emphasizes investments in the lower part of the McKenzie Watershed, near east Springfield, where threats from urban runoff, development and the potential for spills tend to be the greatest. EWEB recently invested in an online emergency response software and mapping program which will help first responders effectively address spills within the watershed. EWEB also partners with several local agencies to invest in green infrastructure that enhances wetlands and forests along the river. Those vital lands help to treat and filter out pollutants and provide greater resiliency to increased flooding and drought associated with climate change.

We continue to work closely with local, state and federal agencies and organizations on a variety of initiatives designed to maintain and improve water quality, as well as to promote public awareness and stewardship of a healthy watershed. We are fortunate to live in a place with such excellent water quality, and we are committed to keeping it that way.

EWEB’s source water assessment is available online at: www.eweb.org/community-and-environment/watershed-protection.
We Make Good Water Even Better

We are fortunate to have a high-quality drinking water source, the McKenzie River. Water quality begins with management of this great resource and continues with filtration and distribution system maintenance. Visit our Source Water Protection Program web page to learn more about how we help protect the McKenzie River watershed. Visit the Water Quality web page to learn more about our filtration process and water testing results.

To request a printed copy of this document, call 541-685-7835, or email water.quality@eweb.org.

Para una copia de este informe en espanol, contacte Joe Harwood en 541-685-7471 o joe.harwood@eweb.org.

EWEB commissioners hold public meetings the first Tuesday of each month.

For more information, go to eweb.org.
1 Before Filtration
- We disinfect the water by adding chlorine, which kills organisms that can make people sick.
- Sometimes we add carbon to improve taste and odor.
- Raw water from the river can be cloudy due to soil particles floating in the water. We add alum and polymer to bind the soil particles into clumps. The clumps then fall to the bottom of the settling basin, and the water flows into the filters.

2 Filtration
- Following settling, the water travels through a multi-layered filtration process that removes any remaining clumps and small particles.

3 After Filtration
- We add more chlorine to maintain the purity of the water throughout our distribution system.
- We adjust pH with sodium hydroxide to reduce corrosion in our distribution system and in your home or business’s plumbing system.

EWEB Water Filtration Process
Even with a high-quality drinking water source, we still have to filter and disinfect the river water to deliver safe drinking water to your tap. At the Hayden Bridge Water Filtration Plant we use a three-step process to turn water from the McKenzie River into safe drinking water.
EWEB Water: Consistently Outstanding

This report provides a snapshot of last year’s water quality. The key conclusion is this: Your water met or exceeded all state and federal drinking water health standards. In fact, EWEB is proud to say that we have never violated a maximum contaminant level or any other water quality standard established by the EPA. For information on EWEB’s drinking water monitoring program call 541-685-7861 or email water.quality@eweb.org.

Detected Contaminants

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency regulates the amount of certain contaminants in water provided by public water systems. The following contaminants were detected in the water. To view a comprehensive list of all the contaminants that EWEB tests for, go to the 2017 annual testing results.

2017 Detected Contaminants

<table>
<thead>
<tr>
<th>Test</th>
<th>MCL</th>
<th>MCLG</th>
<th>Detection Range</th>
<th>In Compliance</th>
<th>Probable Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inorganics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>2</td>
<td>2</td>
<td>0.0017 - 0.0018</td>
<td>Yes</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td><strong>Disinfection Byproducts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Trihalomethanes (ppb)</td>
<td>80</td>
<td>n/a</td>
<td>17.2 - 33.7</td>
<td>Yes</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Haloacetic Acids (ppb)</td>
<td>60</td>
<td>n/a</td>
<td>11.4 - 34.4</td>
<td>Yes</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td>4</td>
<td>4</td>
<td>0.06 - 0.87</td>
<td>Yes</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Total Organic Carbon (ppm)</td>
<td>TT</td>
<td>n/a</td>
<td>0.25 - 0.56</td>
<td>Yes</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

**Distribution System** (testing performed in 2015) | **90th Percentile Value**

<table>
<thead>
<tr>
<th>Test</th>
<th>MCL</th>
<th>MCLG</th>
<th>Detection Range</th>
<th>In Compliance</th>
<th>Probable Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (ppm)</td>
<td>AL=1.3</td>
<td>1.3</td>
<td>0.070</td>
<td>Yes</td>
<td>Corrosion of household plumbing systems</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>AL=15</td>
<td>0</td>
<td>3.0</td>
<td>Yes</td>
<td>Corrosion of household plumbing systems</td>
</tr>
</tbody>
</table>

**Microbiologicals**

<table>
<thead>
<tr>
<th>Test</th>
<th>MCL</th>
<th>MCLG</th>
<th>Detection Range</th>
<th>In Compliance</th>
<th>Probable Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity (ntu)</td>
<td>TT&lt;0.3 NTU</td>
<td>n/a</td>
<td>Highest measurement · 0.095</td>
<td>Yes</td>
<td>Soil run-off</td>
</tr>
</tbody>
</table>

**Radioactive Contaminants**

<table>
<thead>
<tr>
<th>Test</th>
<th>MCL</th>
<th>MCLG</th>
<th>Detection Range</th>
<th>In Compliance</th>
<th>Probable Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Radium (pCi/L)</td>
<td>5</td>
<td>0</td>
<td>ND – 0.19</td>
<td>Yes</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>
Unregulated Contaminant Monitoring

In 2013, EWEB conducted monitoring for unregulated contaminants on a quarterly basis. These contaminants don’t yet have a drinking water standard set by the EPA. The purpose of monitoring is to help the EPA decide whether the contaminants should have a standard. A full list can be found here. The four metals listed below were detected. They were found at very low, naturally occurring levels typical of the Cascade rock formations of volcanic origin at the headwaters of the McKenzie River.

<table>
<thead>
<tr>
<th>Inorganic (results in ppb)</th>
<th>Average Result</th>
<th>Detection Range</th>
<th>Probable Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Chromium</td>
<td>&lt;0.2</td>
<td>&lt;0.2 - 0.39</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Hexavalent Chromium</td>
<td>0.10</td>
<td>0.097 - 0.12</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Strontium</td>
<td>26</td>
<td>25-28</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Vanadium</td>
<td>4.6</td>
<td>3.6 - 5.8</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

For information on EWEB’s drinking water monitoring program call 541-685-7861, or email water.quality@eweb.org
Notes on EWEB Detected Contaminants
The following provides additional information about the contaminants that were detected:

**Barium/Combined Radium**
These naturally occurring substances, found in the mineral composition of our watershed, were detected at extremely low levels - well below EPA standards.

**Chlorine**
EWEB adds chlorine to our water during the disinfection process to protect against microorganisms such as Giardia and E.coli.

**Copper**
Copper is found in natural deposits and is also widely used in household plumbing materials.

**Disinfection Byproducts (DBPs)**
Disinfectants are an essential element in drinking water treatment because of the barrier they provide against waterborne disease-causing microorganisms. DBPs form when disinfectants used to treat drinking water react with naturally occurring materials in the water (e.g., decomposing plant and other organic material).

**Turbidity**
Turbidity is a measure of the cloudiness of water. Turbidity can interfere with disinfection. EWEB’s filtration process effectively removes turbidity.

**Total Organic Carbon**
A measure of naturally occurring organic materials in water.

**Definitions**

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Contaminant Level (MCL)</td>
<td>The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.</td>
</tr>
<tr>
<td>Maximum Contaminant Level Goal (MCLG)</td>
<td>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.</td>
</tr>
<tr>
<td>Maximum Residual Disinfectant Level (MRDL)</td>
<td>The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.</td>
</tr>
<tr>
<td>Highest Locational Running Annual Average (LRAA)</td>
<td>The highest calculated average of multiple results at a single location in a 12-month period.</td>
</tr>
<tr>
<td>Highest Running Annual Average</td>
<td>The highest calculated average of multiple results in a 12-month period.</td>
</tr>
<tr>
<td>Action Level (AL)</td>
<td>The concentration of a contaminant, which, if exceeded, triggers treatment.</td>
</tr>
<tr>
<td>Treatment Technique (TT)</td>
<td>A required process intended to reduce the level of a contaminant in drinking water.</td>
</tr>
<tr>
<td>90th Percentile</td>
<td>This means that 90 percent of the samples collected were equal to or below the value reported.</td>
</tr>
<tr>
<td>Detection Range</td>
<td>The range of contaminant levels found in parts per million or billion (ppm or ppb). These units of measure describe the levels of detected contaminants.</td>
</tr>
<tr>
<td>Nephelometric Turbidity Units (NTU)</td>
<td>A measure of water clarity.</td>
</tr>
<tr>
<td>Non-Detect (ND)</td>
<td>Contaminant not detectable using current monitoring equipment.</td>
</tr>
</tbody>
</table>

EWEB staff monitor water quality in the McKenzie Watershed
How We Prevent Lead in Our Drinking Water System

All of us care about our family’s health and well-being. Elevated levels of lead can cause serious health problems, and pregnant women and young children are especially vulnerable. For decades, we have tested our water for lead. This testing shows that there is no lead in the water that enters the distribution piping. We also adjust the pH of the water to reduce corrosion in our pipe systems and to help prevent lead from leaching out of old household plumbing fixtures.

How to keep lead out of your drinking water

Boiling water will not reduce or remove lead from water. Here are a few tips to reduce lead exposure from your tap water:

- **Run your tap**
  Before drinking, flush your pipes by running your tap, taking a shower, doing laundry or a load of dishes.

- **Clean your aerator every few months to remove any particles.** Your faucet aerator can trap particles that contain lead.

- **Consider buying low-lead fixtures**
  As of January 4, 2014, all pipes, fittings and fixtures must contain less than 0.25 percent lead. Learn how to identify lead free products.

- **Use only cold water to drink, cook and make baby formula**
  Hot water makes it easier for lead to leach from your pipes into the drinking water.

- **Consider using a water filter**
  Contact National Sanitation Foundation International at 1-800-673-8010 for information about certified water filters. Follow all filter maintenance instructions to keep your water safe.

What to do if you are concerned about lead in your drinking water

- **YOU CAN** have your tap water tested for the presence of lead. Click here for a list of certified laboratories.

- **YOU CAN** find out if you have lead pipes.

- **YOU CAN** ask your child’s doctor to have a lead blood level test done. The Centers for Disease Control and Prevention recommends that public health actions be initiated when the level of lead in a child’s blood is 5 micrograms per deciliter (µg/dL) or more.

For additional information, please visit:

- EUGENE WATER & ELECTRIC BOARD
  - How EWEB prevents lead in drinking water

- OREGON HEALTH AUTHORITY
  - Lead fact sheet
  - Oregon healthy school facilities

- US ENVIRONMENTAL PROTECTION AGENCY
  - Learn about Lead
  - Lead in Drinking Water
EWEB is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. Additional Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or visit the EPA’s website.

**How Lead Could Get Into Your Drinking Water**

**Service lines**
Although rare, some homes built before 1950 may have been connected to our water system by a lead “gooseneck.” For more than 30 years we have been removing all lead parts from our system. We have reviewed our documentation and developed a materials evaluation. There are no known lead service lines in our distribution system.

**Household plumbing**
The main source of lead in our community’s tap water is old household plumbing. Household plumbing is the homeowner’s portion of the service line which runs from the meter to your house and the type of internal plumbing and faucets used inside your home. Lead solder was often used in homes built or plumbed with copper pipes before 1986. Lead is also common in brass faucets and fixtures manufactured before 2014.

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Gooseneck

Faucets and Fixtures
Faucets installed before 2014 could contain leaded brass.

Lead Solder
Lead solder was commonly used to join copper pipe before 1986.

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**EWEB**

Water Meter
EWEB uses lead-free meters.

**EWEB-Owned Service Line**

**Customer-Owned Service Line**
What the EPA says about Drinking Water Contaminants

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 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 or visiting the website.

Contaminants in drinking water sources may include:

- **Microbial contaminants** such as viruses and bacteria, which may come from wildlife or septic systems.
- **Inorganic contaminants** such as salts and metals, which can occur naturally or result from urban storm water runoff, industrial or domestic wastewater discharges and farming.
- **Pesticides and herbicides** which may come from a variety of sources such as farming and forestry activities, urban storm water runoff, and home or business landscaping activities.
- **Organic chemical contaminants** including synthetic and volatile organic chemicals, which are byproducts of industrial processes. These substances also can come from gas stations, urban storm water runoff and septic systems.
- **Radioactive contaminants** can occur naturally or may result from oil and gas production and mining activities.

**Special Health Considerations**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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 (1-800-426-4791).
For general EWEB questions, call 541-685-7000, or visit eweb.org.

For water quality questions, please call 541-685-7861, or email water.quality@eweb.org.