

Wilderness Rim Association

2016 Annual Water Quality Report

Dear Wilderness Rim Association Member:

In response to requirements of the Federal Safe Drinking Water Act, Wilderness Rim Association (WRA; Association) is providing you with our 2016 Water Quality Report. This report, which is required annually by the United States Environmental Protection Agency (EPA) and the Washington State Department of Health (DOH), is distributed to all members of the Association. This report is designed to inform you about the quality of the water and services that are provided to you every day. This report describes our Association, the quality of our service area's drinking water, and the programs that protect the high quality of our water sources.

We are pleased to report that the water provided by the Association exceeds established state and federal water-quality standards. Please feel free to contact the Association office at 425-888-0087 if you have any questions regarding the information provided in this report, or if you need any additional information.

Wilderness Rim Association Board of Trustees

1. Wilderness Rim Association Profile

Wilderness Rim Association was incorporated in 1967. The Association is a non-profit, consumer-owned association, and is administered by a Board of Trustees. Sallal Water Association (Sallal) provides water to Wilderness Rim, while maintenance and operation of the Association's water system are provided on a contractual basis by a certified water system operator. The City of Seattle's Cheser Morse Reservoir, located about 2 miles from Wilderness Rim, was the initial source of the Association's water for approximately 16 years. In 1983 and 1985, two deep wells were drilled inside the Seattle Watershed. In 1986, Sallal began providing water from these wells to the Association.

2. Public Water System Information

Public Water System Name and Address – Wilderness Rim Association, 16913 424th Avenue SE, North Bend, Washington, 98045

Public Water System Identification Number – 96878 M

Public Water System Designees – Roger Lillejord (Water System Operator; 425-829-6425), Paul Tredway (Sallal Water Association; Manager; 425-888-3650), and Mike Kenyon (Wilderness Rim Association Water Utilities Chair; 425-888-0087).

Wilderness Rim Association Water Utilities Committee Meetings – 2nd Wednesday each month, 6:30PM, Cascade Park Chalet, 16913 424th Avenue SE, North Bend, Washington, 98045

3. Drinking Water Source and Source Protection Information

Our water comes from two groundwater wells maintained by Sallal. The wells (Rattlesnake 1 and 2; DOH Source Numbers S01 and S02) are located on the northwest flank of Rattlesnake Ridge, within the City of Seattle Watershed. Both of these wells are equipped with 100 horsepower line shaft motors and produce 800 gallons per minute each. Nothing is added to the groundwater source. Sallal provides water to the Wilderness Rim Association as a wholesale member through two metered interties. Information on our source water and any known contaminants found within the source area can be obtained from Sallal (425-888-3650) or from the DOH Source Water Assessment Program (<http://www.doh.wa.gov/CommunityandEnvironment/DrinkingWater/SourceWater/SourceWaterProtection/assessment>).

4. Required Information from the U.S. Environmental Protection Agency and Washington Department of Health on the Potential for Health Concerns Relating to 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 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 human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. A contaminant is defined as any substance in water. Contaminants that may be present in source water include microbial contaminants (such as viruses, parasites, and bacteria); inorganic contaminants (such as salts and metals); pesticides and herbicides; organic chemical contaminants (such as synthetic and volatile organic chemicals); and radioactive contaminants (that may be of natural occurrence or the result of industrial activities). The presence of contaminants does not necessarily indicate that the water poses a health risk. Not all substances are harmful. Information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as people undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline and on the EPA website.

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing; pipes in the Rim that carry water to homes are made of polyvinyl chloride – PVC). The more time water has been sitting in pipes, the more dissolved minerals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children. If you are concerned about lead in your water, you may want to have your water tested. Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline or online at <http://www.epa.gov/safewater/lead>.

To ensure that tap water is safe to drink, the EPA adopts regulations setting the water quality standards for public water systems. The Food and Drug Administration is responsible for providing the same level of public health protection regarding contaminants in bottled water. This water quality report provides information on your water sources, water quality, programs, and projects related to your drinking water. It is required by the Federal Safe Drinking Water Act and will help you make decisions for yourself and your family about an important subject – your drinking water.

Maximum contaminant levels (MCLs) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-million chance of having the described health effect.

5. Important Definitions

Color units: Measurement of color of water that indicates the level of impurities in the water.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. If the sample exceeds the MCL, then the DOH must be contacted with this information.

mg/l: Milligrams per liter. One mg/liter equals 1 part per million.

Not Detected: Laboratory analysis indicates that the constituent is not present at the established level of detection.

NTU: Nephelometric Turbidity Unit. A measure of turbidity or the degree to which light is scattered by particles suspended in a liquid.

Parts per million: One part-per-million corresponds to one second every 12 days or a single penny in \$10,000.

SRL: State Reporting Level. Minimum reporting level required by the DOH.

Trigger: The DOH drinking water response level. If the sample exceeds the trigger level, additional samples must be taken.

micromhos/centimeter (Umhos/cm): A unit of measure of electrical conductivity. It is used to measure the concentration of soluble salts in water.

6. Water Quality Testing Results

The EPA sets water contaminant standards. The DOH enforces EPA standards. State-certified laboratories test the water according to these standards and procedures. Sallal collects the well source samples. The Association, through its DOH-licensed operator, maintains and operates your water distribution system.

Sallal routinely monitors the chemical constituents in our drinking water according to federal and state laws. However, due to the historical non-detection of contaminants, Sallal routinely monitors on a 3 year cycle for volatile organic, synthetic organic, herbicides, gross alpha/beta radioactivity, and lead and copper. Coliform bacteria is monitored by the Association on a monthly basis and other monitoring is conducted as required or warranted.

The tables below shows the current results of Sallal's monitoring. None of the contaminants were detected in the groundwater sources during the most recent round of testing done according to state and federal regulations. All data shown were collected on September 28, 2016.

The lead concentration in the well water was below the detection level of 0.002 milligrams per liter (mg/l; 0.002 parts per million [ppm]), while the copper concentration in the well water was below the detection level of 0.02 milligrams per liter in the groundwater. These metal concentrations can increase when water contacts plumbing materials containing lead, brass, and copper. Domestic plumbing is the primary source of these metals, and drinking water regulations require that home water samples used for testing must be in contact with domestic plumbing for at least 6 hours. Regular use at each faucet greatly reduces leaching from lead and copper plumbing into tap water. The Association has identified a number of representative homes and takes samples at indoor faucets, in accordance with the state and federal regulations. Instead of the MCL, the EPA has set the following action level: If more than 10 percent of the first draw samples are greater than 0.015 ppm for lead or 1.30 ppm for copper, the water system is required to optimize treatment to minimize the levels of lead and copper. Monitoring conducted by the Association during 2015 showed lead concentration ranging from not detected to less than 0.002 ppm and copper concentration ranging from not detected to 0.26 ppm. These levels are well below regulated action levels.

The Association also monitors for coliform bacteria at several sampling stations in Wilderness Rim each month. No coliform bacteria was found in samples collected during 2016 and early 2017.

Table 1. Inorganic Chemicals Report for Rattlesnake #1 Well for Samples Collected on September 28, 2016.

Contaminant (units)	Results	Units	SRL	Trigger	MCL	Exceeds	
EPA Regulated						Trigger?	MCL?
Arsenic	<0.002	mg/L	0.002	0.1	0.1	No	No
Barium	<0.1	mg/L	0.1	2	2	No	No
Cadmium	<0.002	mg/L	0.002	0.005	0.005	No	No
Chromium	<0.01	mg/L	0.01	0.1	0.1	No	No
Mercury	<0.0005	mg/L	0.0005	0.002	0.002	No	No
Selenium	<0.005	mg/L	0.005	0.05	0.05	No	No
Beryllium	<0.003	mg/L	0.003	0.004	0.004	No	No
Nickel	<0.04	mg/L	0.04	0.1	0.1	No	No
Antimony	<0.005	mg/L	0.005	0.006	0.006	No	No
Thallium	<0.002	mg/L	0.002	0.002	0.002	No	No
Cyanide	<0.05	mg/L	0.05	0.2	0.2	No	No
Fluoride	<0.2	mg/L	0.2	2	4	No	No
Nitrite – N	<0.2	mg/L	0.5	0.5	1	No	No
Nitrate – N	<0.2	mg/L	0.5	5	10	No	No
Total Nitrate/Nitrite	<0.4	mg/L	0.5	5	10	No	No
USEPA Regulated (Secondary)							
Iron	<0.1	mg/L	0.1	0.3	0.3	No	No
Manganese	<0.01	mg/L	0.01	0.05	0.05	No	No
Silver	<0.01	mg/L	0.01	0.1	0.1	No	No
Chloride	1	mg/L	20	250	250	No	No
Sulfate	2	mg/L	10	250	250	No	No
Zinc	<0.2	mg/L	0.2	5	5	No	No
State Regulated							
Sodium	<5	mg/L	5				
Hardness	31	mg/L	10				
Conductivity	48	umhos/cm	10	700	700	No	No
Turbidity	0.5	NTU	0.1	1		No	No
Color	<5.0	color units	5	15	15	No	No
Total Dissolved Solids	NA	mg/L	150	500	500		
State Unregulated							
Lead	<0.002	mg/L	0.002				
Copper	<0.02	mg/L	0.02				

Color units = Measurement that indicates the level of impurities in the water.
MCL = Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. If the sample exceeds the MCL, then the DOH must be contacted with this information.
mg/L = Milligrams per liter. One mg/liter equals 1 part per million.
NA = Not applicable.
NTU = Nephelometric Turbidity Unit. It is a measure of turbidity or the degree to which light is scattered by particles suspended in a liquid.
SRL = State Reporting Level. Minimum reporting level required by DOH.
Trigger = DOH drinking water response level. If the sample exceeds the trigger level, additional samples must be taken.
Umhos/cm: A measure of electrical conductivity. It is used to measure the concentration of soluble salts in water.

Table 2. Inorganic Chemicals Report for Rattlesnake #2 Well for Samples Collected on September 28, 2016.

Contaminant (units)	Results	Units	SRL	Trigger	MCL	Exceeds	
EPA Regulated						Trigger?	MCL?
Arsenic	<0.002	mg/L	0.002	0.1	0.1	No	No
Barium	<0.1	mg/L	0.1	2	2	No	No
Cadmium	<0.002	mg/L	0.002	0.005	0.005	No	No
Chromium	<0.01	mg/L	0.01	0.1	0.1	No	No
Mercury	<0.0005	mg/L	0.0005	0.002	0.002	No	No
Selenium	<0.005	mg/L	0.005	0.05	0.05	No	No
Beryllium	<0.003	mg/L	0.003	0.004	0.004	No	No
Nickel	<0.04	mg/L	0.04	0.1	0.1	No	No
Antimony	<0.005	mg/L	0.005	0.006	0.006	No	No
Thallium	<0.002	mg/L	0.002	0.002	0.002	No	No
Cyanide	<0.05	mg/L	0.05	0.2	0.2	No	No
Fluoride	<0.2	mg/L	0.2	2	4	No	No
Nitrite – N	<0.2	mg/L	0.5	0.5	1	No	No
Nitrate – N	<0.3	mg/L	0.5	5	10	No	No
Total Nitrate/Nitrite	<0.5	mg/L	0.5	5	10	No	No
USEPA Regulated (Secondary)							
Iron	<0.1	mg/L	0.1	0.3	0.3	No	No
Manganese	<0.01	mg/L	0.01	0.05	0.05	No	No
Silver	<0.01	mg/L	0.01	0.1	0.1	No	No
Chloride	1	mg/L	20	250	250	No	No
Sulfate	3	mg/L	10	250	250	No	No
Zinc	<0.2	mg/L	0.2	5	5	No	No
State Regulated							
Sodium	<5	mg/L	5				
Hardness	44	mg/L	10				
Conductivity	74	umhos/cm	10	700	700	No	No
Turbidity	0.5	NTU	0.1	1		No	No
Color	<5.0	color units	5	15	15	No	No
Total Dissolved Solids	NA	mg/L	150	500	500		
State Unregulated							
Lead	<0.002	mg/L	0.002				
Copper	<0.02	mg/L	0.02				

Color units = Measurement that indicates the level of impurities in the water.

MCL = Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. If the sample exceeds the MCL, then the DOH must be contacted with this information.

mg/L = Milligrams per liter. One mg/liter equals 1 part per million.

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SRL = State Reporting Level. Minimum reporting level required by DOH.

Trigger = DOH drinking water response level. If the sample exceeds the trigger level, additional samples must be taken.

Umhos/cm = A measure of electrical conductivity. It is used to measure the concentration of soluble salts in water.

7. Water Use Efficiency Rule and Association Water Use

In 2003, the Washington State Legislature passed Engrossed Second Substitute House Bill 1338, known as the Municipal Water Law. The law established that all water suppliers must use water more efficiently in exchange for water right certainty and flexibility to help meet future demand. The Legislature directed the DOH to adopt an enforceable, regulatory program called the Water Use Efficiency Rule, which became effective on January 22, 2007.

The Association used approximately 27 million gallons of water in 2016. Association members have routinely been sensible regarding their water use.

8. Tips to Conserve Water

- Wash your car with a bucket of soapy water and use a nozzle to stop the flow of water from the hose between rinsing.
- Clean driveways and sidewalks with a broom instead of the hose.
- Check for leaks in outdoor faucets, pipes, and hoses.
- Prevent the creation of leaks by shut-ting off and draining water lines to out-side spigots in the winter.
- Cover your spa or pool to reduce evaporation. An average size pool left uncovered can lose as much as 1,000 gallons of water per month.
- Check your spa/pool for leaks and have them repaired promptly.
- Periodically turn off the water in your house and check your water meter to see if it is still registering water use. If so, you have a water leak.

9. How You Can Help

Association members are needed to keep a watch on the water. Your questions, concerns, and observations are an important part of the Association's water quality assurance. Only Association staff and local fire departments are authorized to use fire hydrants. Members that notice unauthorized use of a fire hydrant should contact the Association office immediately.

10. Additional Resources

- Washington State Department of Health
<http://www.doh.wa.gov/ehp/dw>
- U.S. Environmental Protection Agency Drinking Water Hotline and Website
1-800-426-4791
<http://www.epa.gov/safewater>