2020

WATER QUALITY REPORT

City of Florence

A City in Motion

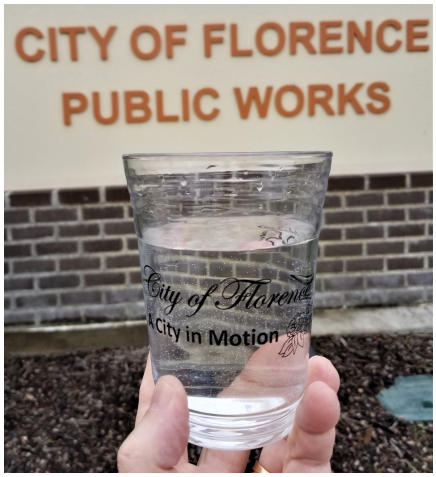
CITY OF FLORENCE, OREGON

MAY 2021 · EDITION

WATER TESTING

WATER SOURCES

WATER TREATMENT



WELCOME

Cool to see you again in this issue.

We are pleased to present you with our 2020 Water Quality Report (also known as a Consumer Confidence Report). This report , required by the Environmental Protection Agency (EPA), provides you with detailed information about your drinking water quality, any detected contaminants, and compliance with drinking water rules. It is also an opportunity for the City to provide you, the consumer, with educational information on where your water comes from, how it is treated, and what you can do to ensure that your water remains the clean, fresh, and the safe commodity that it has always been.

Around the world, concerns about the safety of public water supplies remain high, especially during the coronavirus pandemic. We want to reassure our customers that Florence's water continues to be safe to drink and use, and we are committed to taking all steps necessary to maintain reliable and safe water service. Our steps this past year included adjusting staff schedules to provide full seven days a week coverage at the treatment plant; and dividing staff into teams so if one operator became ill we still had coverage. Our operators worked tirelessly to provide you, our valued customers, with quality water.

Many communities, including Florence, are fortunate to have reliable access to safe water when we turn on the tap. We recognize the vital role tap water plays in daily life, the infrastructure that is required to carry it to and from homes and businesses, and the important work of water professionals "behind the scenes".

This edition contains information concerning the City of Florence Water System, Identification (WSID) #4100299, and covers all testing completed from January through December, 2020.

Mike Miller, Public Works Director

CONTACT US

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City of Florence
A City in Motion

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HOW TO VIEW THIS REPORT

ONLINE

www.ci.florence.or.us/publicworks/2020-water-quality-report

PAPER COPY

541-997-4106

SPECIAL NOTICE

FOR IMMUNO-COMPROMISED PERSONS

Some people may be more vulnerable to contaminants in drinking water than the general population.

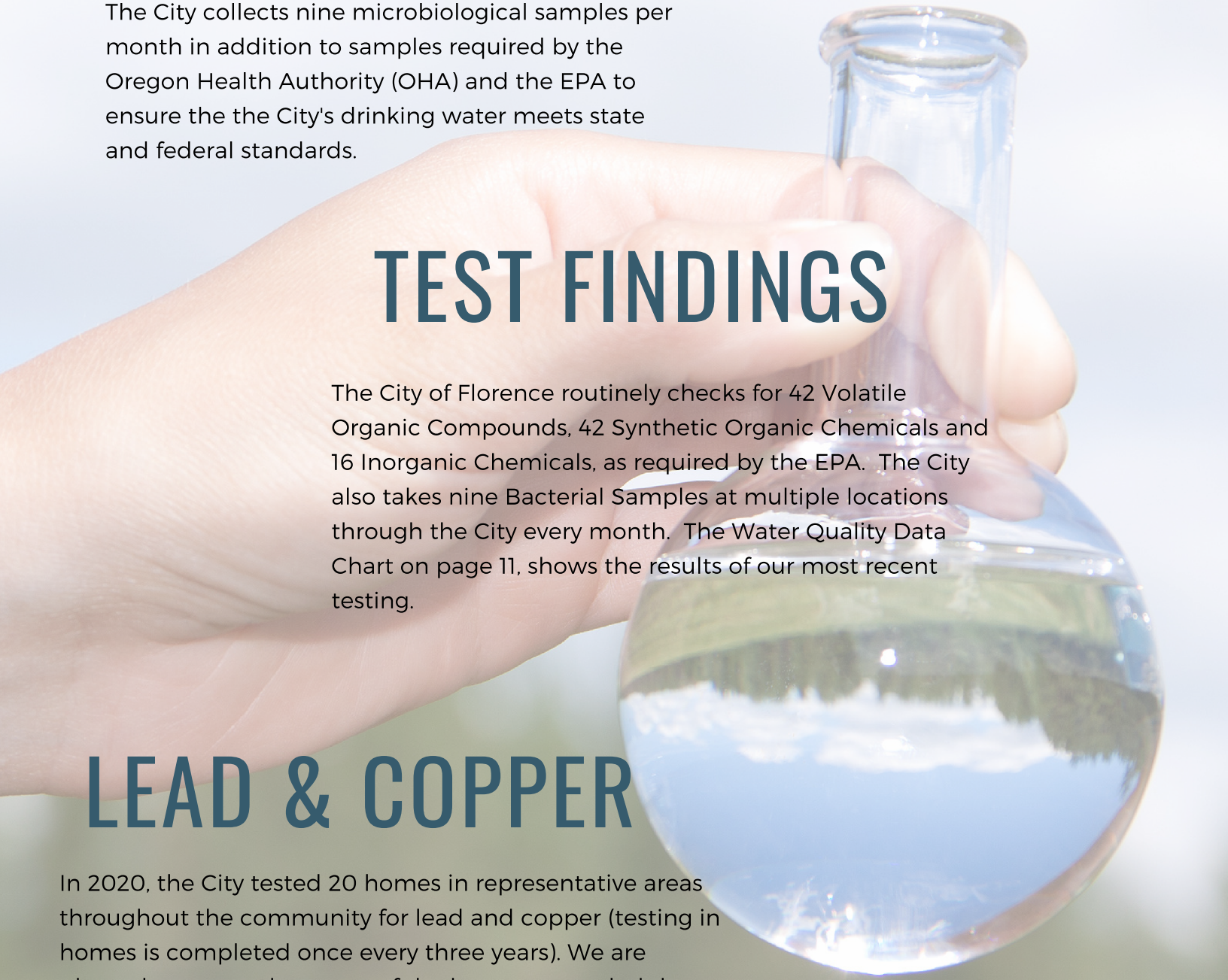
Immuno-compromised persons such as persons undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The EPA and Centers for Disease Control and Prevention guidelines on appropriate means to lesson the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

WATER QUALITY TESTING

Ongoing water quality testing continues to be one of the highest priorities for the City's drinking water program in its commitment to providing premium, safe drinking water to residents.

The City collects nine microbiological samples per month in addition to samples required by the Oregon Health Authority (OHA) and the EPA to ensure the the City's drinking water meets state and federal standards.



TEST FINDINGS

The City of Florence routinely checks for 42 Volatile Organic Compounds, 42 Synthetic Organic Chemicals and 16 Inorganic Chemicals, as required by the EPA. The City also takes nine Bacterial Samples at multiple locations through the City every month. The Water Quality Data Chart on page 11, shows the results of our most recent testing.

LEAD & COPPER

In 2020, the City tested 20 homes in representative areas throughout the community for lead and copper (testing in homes is completed once every three years). We are pleased to report that none of the homes exceeded the Action Levels as determined by the EPA. For citizens concerned about sodium levels, currently the sodium level in our water is 30.15 mg/L.

YOUR DRINKING WATER

In 2020, the City of Florence supplies approximately 8,925 consumers within the City's water service area. The water these customers received came from 13 dunal wells located just north of the City's water treatment plant at 2500 Willow Street. The well field is City-owned and consists of approximately 80 acres of carefully managed land as recommended in the City's well head protection plan.

WATER FILTRATION

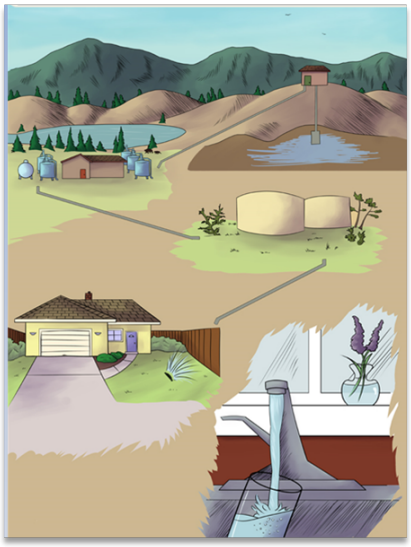
The City of Florence water system uses two (2) filter systems in a series to remove the iron from the raw groundwater. Three (3) biological filters and six (6) greensand filters comprise our filter system and these filters can treat up to three (3) million gallons of water per day (mgd). The City's supply of raw ground water contains dissolved iron in the range of 6-9 parts per million (ppm) before treatment. The water treatment plant oxidizes and removes all but 0.01 ppm through the treatment process.

WATER FLOW

As water flows through the treatment plant, 90% of the iron is removed through the use of biological oxidation and filtration. Air is injected into the water to increase the level of dissolved oxygen, and the naturally occurring iron bacteria assist in oxidation through various metabolic processes. The sand filters then separate the oxidized iron and bacteria from the water. The filtered water is then chlorinated to chemically oxidize the water and deactivate any residue bacteria. Potassium permanganate is added to the chlorinated water to provide additional oxidation before the final filtration with greensand and anthracite coal. The color and odor of the water is removed with the iron and final product is cool, wet, colorless, ordorless and tastes great!

SOURCE OF SUPPLY

We receive our water supply from the North Florence Sole Source Dunal Aquifer, designated as a "sole source" aquifer from the EPA in 1987
It continues to be the only "sole source" aquifer in the State of Oregon. The EPA defines a sole source aquifer as "an underground water source that supplies at least 50% of the drinking water consumed in the area overlying the aquifer. These areas have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend upon the aquifer for drinking water."*
*All streams, creeks, lakes and wetlands (surface waters) in the aquifer boundary are "hydrologically connected" with the groundwater system.



The source water assessment & aquifer protection plan is available for customer review by calling Public Works at 541-997-4106.

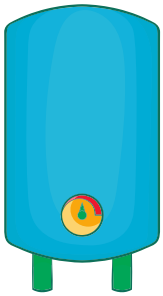
#CLEANWATER

TIPS TO IMPROVE YOUR HOME'S DRINKING WATER

Flush cold water faucets before using for cooking, drinking, or making baby formula

Don't use hot tap water for cooking, drinking, or making baby formula.

Routinely replace filter cartridges. Bacteria and metals can build up.



Drain your water heater annually. Sediment, bacteria, and metals can build up and impact water quality and pressure.

LEAD

In Drinking Water

The City of Florence is responsible for providing high quality drinking water, but cannot control the variety of materials used in household plumbing components. 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.
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 your water for drinking or cooking.

Free Lead Testing

If you are concerned about lead in your drinking water, you may request a free lead-in-water test from the LeadLine at 1-988-4000 or go to www.leadline.org.
They can provide more information on testing methods and steps you can take to minimize exposure.

FROM THE EPA

ABOUT DRINKING WATER CONTAMINATES

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.

CALL THE EPA'S SAFE DRINKING WATER HOTLINE AT 1-800-426-4791 OR GO TO WWW.EPA.GOV/SAFEWATER FOR MORE INFORMATION ABOUT CONTAMINANTS AND THEIR POTENTIAL HEALTH EFFECTS.

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.

CONTAMINATES THAT MAY BE PRESENT IN WATER INCLUDE:

MICROBIAL CONTAMINATES

Viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

INORGANIC CONTAMINATES

Salts and metals which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges or farming.

PESTICIDES & HERBICIDES

Come from a variety of sources such as farming, urban stormwater runoff and septic systems.

ORGANIC CHEMICAL CONTAMINANTS

Includes synthetic and volatile organic chemicals, which are byproducts of industrial processes, and can also come from gas stations, urban stormwater runoff and septic systems.

RADIOACTIVE CONTAMINANTS

Occur through erosion of natural deposits.

In order to ensure that tap water is safe to drink, the EPA has regulations that limit the amount of certain contaminants in water provided by public water systems and requires monitoring for these contaminates. The Food and Drug Administration regulations establish limits for contaminates in bottled water, which must provide the same protections for public health.

HARDNESS IN WATER

The City of Florence water source is considered to be very soft.

HARD WATER

Hard water is caused by higher than ordinary levels of dissolved minerals, such as magnesium and calcium, often enhanced by carbon dioxide.

Hard water does not dissolve soap readily, so making a lather for washing and cleaning is difficult.

SOFT WATER

On the other hand, water containing little calcium or magnesium is considered soft.

The City of Florence's water has a hardness of 19 ppm or 1.1 grains of hardness per gallon.

WATER IS THE SOUL OF THE EARTH.

W.H. AUDEN

DRINKING WATER FLUORIDATION

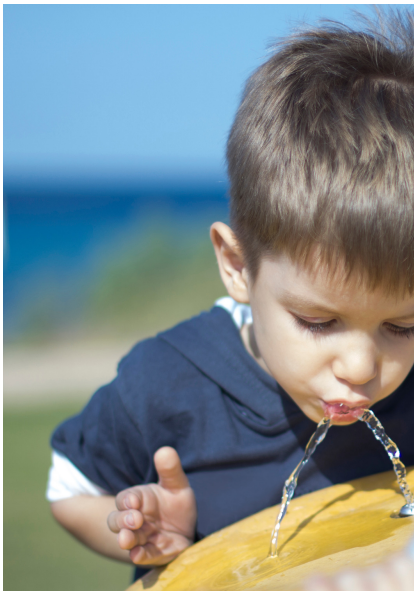
Does the City add Fluoride?

The City of Florence has been adding fluoride to its water service since the early 1960s.

Currently, fluoride is added at the EPA recommended rate of 0.7 mg/L (milligrams per liter).

According to the U.S. Center for Disease Control (CDC) and the U.S. Department of Health and Human Services, widespread use of fluoride has been a major factor in the decline of the prevalence and severity of tooth decay in the United States.

When used appropriately, fluoride is both safe and effective in preventing tooth decay.



MISSION STATEMENT

The Public Works Department is dedicated to professionally maintaining and improving the current infrastructure of water, sewer, storm, street, airport, parks and city facilities, to the highest possible standards for our community.

We will continually look ahead to plan for and provide services that will allow the City of Florence to meet its future goals.

Our core values are professionalism, respect, integrity, dedication and enthusiasm. We proudly provide stewardship and professional management in maintaining and improving our systems and facilities.

City of Florence

A City in Motion

DEFINITIONS

ND:

None Detected

ACTION LEVEL (AL):

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MAXIMUM CONTAMINATION LEVEL (MCL):

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.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG):

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.

PARTS PER MILLION (PPM) OR MILLIGRAMS PER LITER (MG/L):

A unit of measurement describing the level of detected contaminants that is one part by weight of analyte to one million parts by weight of the water sample. One part per million corresponds to one penny in $10,000 or approximately one minute in two years. One part per million is equal to 1,000 parts per billion.

PARTS PER BILLION (PPB) OR MICROGRAMS PER LITER (UG/L) :

A unit of measurement describing the level of detected contaminants that is one part by weight of analyte to one billion parts by weight of the water sample. One part per billion corresponds to one penny in $10,000,000 or approximately one minute in 2,000 years.

PICOCURIES PER LITER (PCI/L):

A standard measurement of radioactivity in water.

TREATMENT TECHNIQUE (TT):

A required process intended to reduce the level of contaminant in drinking water

UNREGULATED CONTAMINANTS:

Water quality standards for unregulated contaminants are established as guidelines to assist public water systems in managing drinking water for aesthetic considerations such as taste, color, and odor. These contaminants do not present a risk to human health.

WATER QUALITY DATA

Inorganics and Bacteria						
Parameter	**Units**	**Goal MCLG**	**Allowed MCL**	**Max Detected in City's Water**	**Violation? Yes/No**	**Major Sources**
Fluoride	ppm	4	4	0.89 mg/L	No	Water additive which promotes strong teeth; erosion of natural deposits
Nitrate	ppm	10	10	ND	No	Erosion of natural deposits
Nitrite	ppm	1	1	ND	No	Erosion of natural deposits
Total Coliform	No units	0	0	0	No	Naturally present in the environment
Disinfection By-Products						
Total Trihalomethanes	ppb	n/a	80	16.5	No	By-product of Chlorination
Haloacetic Acids	ppb	n/a	60	6.2	No	By-product of Chlorination

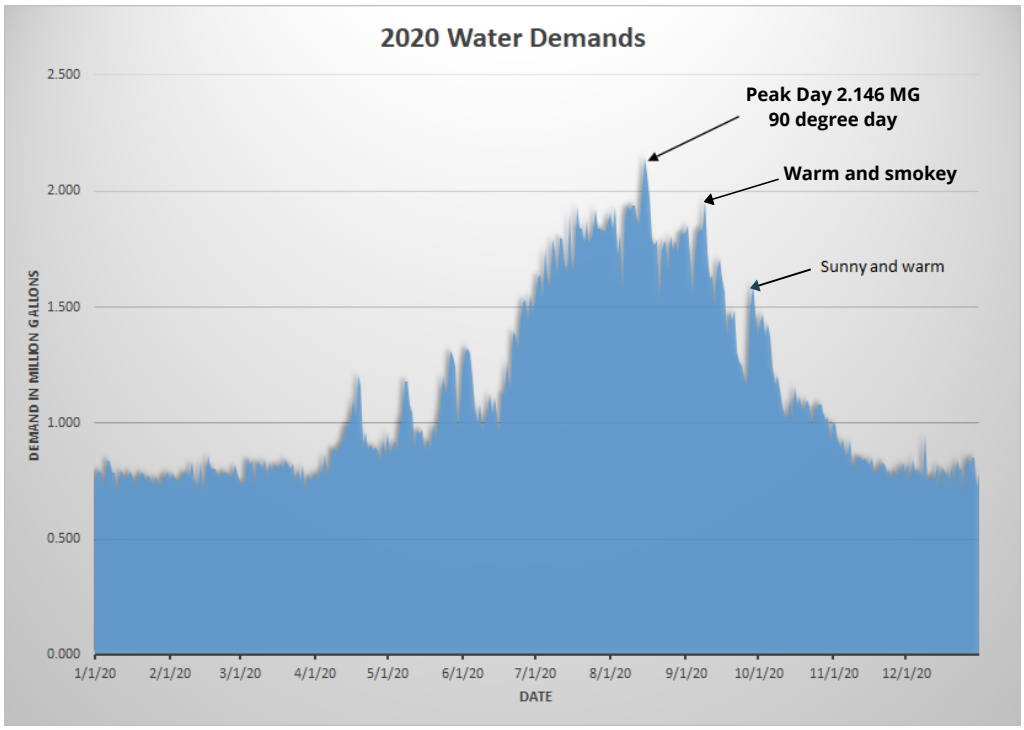
Lead and Copper Sampling*						
Parameter	**Units**	**Goal MCLG**	**Allowed MCL — or Action Level**	**90th Percentile**	**Violation? Yes/No**	**Major Sources**
Copper	ppm	1.3	1.3	0.2310	No	Corrosion of household plumbing
Lead	ppb	0	15.0	6.6	No	Corrosion of household plumbing

*Based on 90% of homes tested being at or lower than the reporting limit. For lead and copper, a water supply is in compliance with the drinking water standards if 90% of the samples are less than or equal to the Action Level. This is a 3-year testing cycle. Last test was in 2020.

Unregulated and Secondary** (regulations provide advisory limits only) Tested in 2014			
Parameter	**Units**	**Max Detected in City's Water**	**Major Sources**
Sodium	ppm	30.5	Erosion of natural deposits, water treatment additive

**Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to help EPA determine their occurrence in drinking water and potential need for future regulation. There is currently no drinking water standard for sodium. At the levels found in drinking water, they are unlikely to contribute to adverse health effects.

Radioactive Contaminants*** Tested in 2014					
Parameter	**Units**	**Goal MCLG**	**Highest Level Detected in City's Water**	**Violation? Yes/No**	**Major Sources**
Gross Alpha	pCi/L	15	4.0	No	Erosion of natural deposits
Radium Combined (226 and 228)	pCi/L	5	1.2	No	Erosion of natural deposits



2020 WATER DEMANDS

The chart to the left represents our system water demands for the 2020 calendar year. Our peak demand day occurred on August 15th with 2.146 million gallons of water used. The greatest demand for water occurs during the summer months each year (June to September) as can be seen on the Daily Water Demand Graph. Florence's summer water use increases dramatically due to outdoor watering. The spiking of water use during the summer indicates dry weather patterns and heavy outdoor water use.

LESS THAN 1% OF THE WATER SUPPLY ON EARTH CAN BE USED AS DRINKING WATER. MOST OF THE EARTH'S SURFACE WATER IS PERMANENTLY FROZEN OR SALTY.

WHAT LAWS KEEP MY DRINKING WATER SAFE?

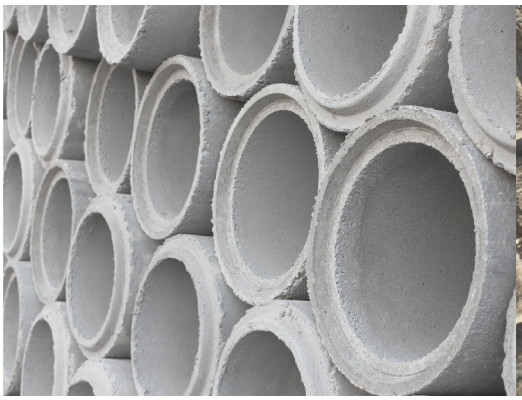
Congress passed the Safe Drinking Water Act (SDWA) in 1974 to protect public health by regulating the nation's public drinking water supply and protecting sources of drinking water. SDWA is administered by the U.S. Environmental Protection Agency (EPA) and its state partners.

PUBLIC WATER SYSTEMS

Providing safe drinking water is a partnership that involves EPA, the states, tribes, water systems, and water system operators. The public drinking water systems regulated by EPA and delegated states and tribes provide drinking water to 90 percent of Americans.

A public water system provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year. A public water system may be publicly or privately owned.

There are over 148,000 public water systems in the United States. EPA classifies these water systems according to the number of people they serve, the source of their water, and whether they serve the same customers year-round or on an occasional basis.



SAFE DRINKING WATER/BACKFLOW PREVENTION

The City of Florence ensures water that is treated and distributed to consumers is pure and healthful. Public drinking water is collected at the source. In Florence, our water source is from wells located in the dunal aquifer. The water is treated at the Water Treatment Plant, and then it is distributed through the water distribution system to your home or business. Below is information about Backflow and our Backflow Prevention Program.

What Causes Backflow?

Your water could become contaminated when a water supply line is connected to equipment that contains a non-potable (non-drinkable) water source. Connections like these can be permanent or temporary. They are called Cross-Connections and contamination of the drinking water by these connections could be dangerous, however, there are several things we do to ensure such contamination does not happen.

Water distribution systems are designed so water only flows in a certain direction; however, sometimes there are conditions within the system that causes the water to flow in the opposite direction—called backflow. Backflow occurs when a drop in water pressure causes your water to flow in the opposite direction. This can allow contaminated or polluted water to flow back into your drinking water. Given Oregon Healthy Authority (OHA) and US EPA regulations and the dangers that exist from unprotected cross connections, it is necessary to establish and maintain an effective cross connection control program to protect both our water customers as well as the integrity of the City of Florence's water supply.

Backflow is possible in two situations, backsiphonage and backpressure. Backsiphonage occurs when there is a sudden reduction in the water pressure in the distribution system, such as during firefighting or when a water main breaks, water flow can be reversed. This can create a suction effect drawing the non potable substance into the potable water system. Backpressure is created when pressure in non-potable system, such as in a recirculation system containing soap, acid or antifreeze, exceeds that in the potable system pressure. This can force the potable water to reverse its direction of flow through the cross connection. Non-potable substances can then enter the potable water system. Backsiphonage can also occur, for example, when a hose connected to a faucet that is sitting in a mop bucket sitting in a maintenance sink. Even a little water in the mop bucket could be siphoned back through the faucet and into the distribution system.

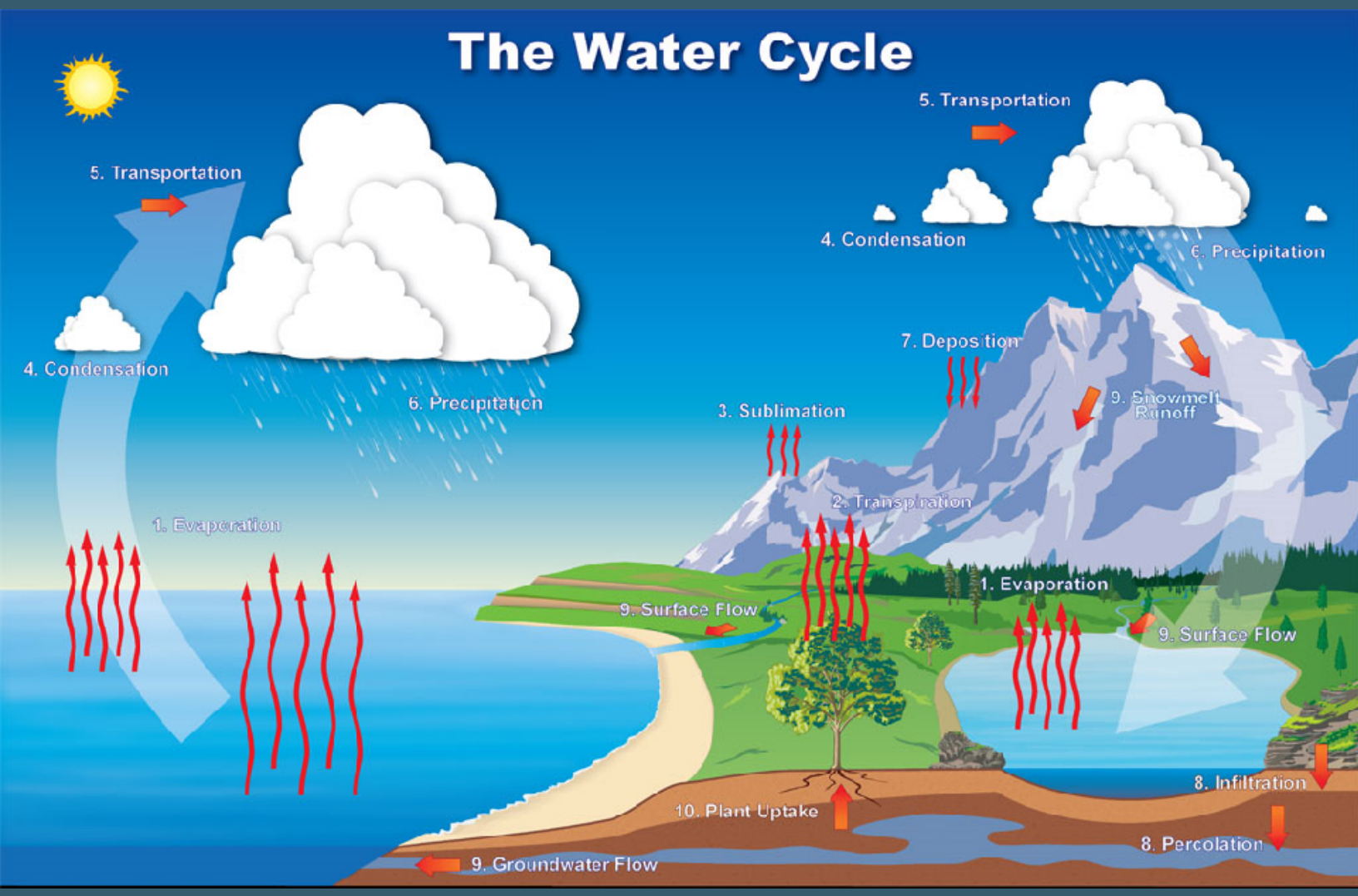
Because of these potential dangers to the consumer, these cross-connections are controlled by mechanical assemblies called Backflow Preventers, which are designed to prevent contaminated water from entering water distribution systems. There are different types of preventers and each type is designed to prevent backsiphonage or backpressure. There are also types of preventers designed to work under different conditions—high hazard or low hazard, for example.

Backflow preventers have undergone stringent laboratory and field testing. The Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California tests backflow preventers and ones that have passed their tests receive approval from the Foundation. Approved backflow preventers are extremely dependable.

As a public water utility, the City of Florence we are constantly surveying our system to maintain high quality drinking water level standards and determine the type(s) of backflow prevention necessary to protect the water system. We have a cross-connection control program within our water department and a cross-connection control specialist as part of our utility crew.

Consumers must be aware of cross-connections and prevent them, or protect cross-connections with the appropriate backflow preventer. Backflow preventers need to be tested at least one time each year to ensure they are working properly, and when necessary, they must be repaired to assure proper operation.

With all of us working together, we can ensure the water distribution system is kept free from impurities and health hazards. The City of Florence has a comprehensive cross-connection and backflow prevention program, which helps us to protect our valuable drinking water resource.



Earth's water is always in movement, and the natural water cycle, also known as the hydrological cycle, describes the continuous movement of water on, above, and below the surface of the Earth.

Precipitation is a vital component of how water moves through Earth's water cycle, connecting the ocean, land, and atmosphere. Knowing where it rains, how much it rains and the character of the falling rain, snow or hail allows scientists to better understand precipitation's impact on streams, rivers, surface runoff and groundwater. Frequent and detailed measurements help scientists make models of and determine changes in Earth's water cycle.

The water cycle describes how water evaporates from the surface of the earth, rises into the atmosphere, cools and condenses into rain or snow in clouds, and falls again to the surface as precipitation. The water falling on land collects in rivers and lakes, soil, and porous layers of rock, and much of it flows back into the oceans, where it will once more evaporate. The cycling of water in and out of the atmosphere is a significant aspect of the weather patterns on Earth.

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Contact Information

City of Florence Public Works
2675 Kingwood
Florence, OR 97439
541-997-4106

Water Treatment Plant
2500 Willow Street
Florence, OR 97439
541-997-7370

The City of Florence is proud of the high quality water that is supplied to our citizens daily.

If you have any questions regarding your water quality or about information presented in this report, please call the Water Treatment Plant at 541-997-7370 or the Public Works Department at 541-997-4106. Information is also available online at www.ci.florence.or.us .

We encourage public interest and participation in decisions affecting our drinking water. City Council meetings usually occur on the first and third Mondays of each month at 5:30 pm at City Hall. City Hall is located at 250 Hwy 101. For information on meeting schedules and agendas, contact 541-997-3437 or visit the City's website at www.ci.florence.or.us.

This report contains important information about your community's water system. Have it translated or speak to a friend that understands it well.

Este informe contiene información importante sobre el sistema de agua de su comunidad. Haz que lo traduzcan o hable con un amigo que lo entienda bien.

WATER TESTING WATER SOURCES WATER TREATMENT