# 2024 ANNUAL WATER QUALITY REPORT

**The City of Astoria Public Works Department is pleased to present the 2024 Water Quality Report. This report provides important information about the cleanliness, safety, and purity of our water. All data has been collected and reported in compliance with regulations set by the U.S. Environmental Protection Agency and the Oregon Health Authority Drinking Water Services.**

**Our staff is committed to delivering a safe, reliable, and high-quality water supply. We achieve this by continuously monitoring for contaminants and pollutants to ensure compliance with regulatory standards.**

**Specifically:**

- **Ten samples per month are tested for bacteriological organisms.**
- **Water is monitored daily to maintain proper disinfectant and fluoride levels and to ensure acceptable turbidity.**
- **Additional testing follows an Oregon Health Authority schedule to check for disinfection byproducts, lead and copper, inorganic and organic compounds, pesticides, herbicides, and radiological contaminants.**

**The City of Astoria routinely monitors drinking water as required by state and federal regulations. This report includes data from January 1, 2024, to December 31, 2024, unless otherwise noted. While our water is tested for both regulated and unregulated contaminants, only detected substances are listed in this report.**

## WATER TREATMENT: A STEP-BY-STEP GUIDE

1

As water passes through the filter, the biofilm and sand remove bacteria, viruses, turbidity, and fine particles through biological degradation and adsorption.

2

Water flows slowly through a thick layer of fine sand. Physical filtration traps particles and sediment between sand grains, while a Schmutzdecke biofilm breaks down organic matter and pathogens, enhancing water quality.

3

Before water enters the slow sand filter, large debris, leaves, and particles are removed using screens or settling basins. This reduces the load on the filter and improves efficiency.

4

Once filtered, clean water is collected in an underdrain system beneath the sand bed and directed for further treatment.

5 Filtered water is treated with chlorine which protects the water as it travels through the transmission lines to the City Reservoirs and the distribution system.

# ABOUT THIS REPORT AND DATA

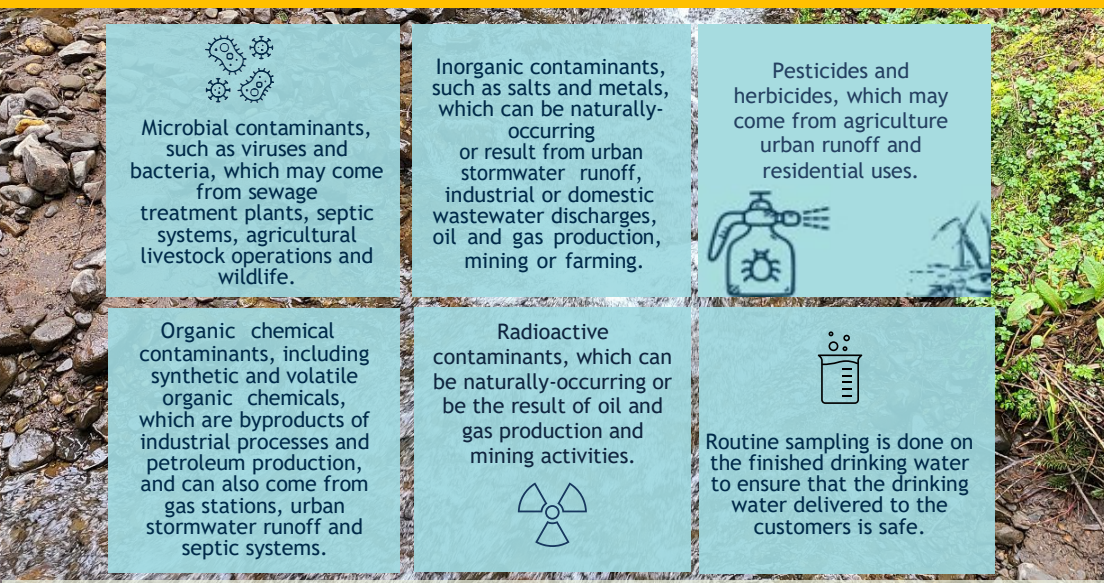
Federal and state drinking water standards require monitoring and reporting of specific water quality parameters. The U.S. Environmental Protection Agency (EPA) has established maximum contaminant levels (MCLs) for these parameters—thresholds set to ensure there is no known or expected risk to health.

To maintain accuracy and reliability, the EPA mandates that only state-certified laboratories using approved standard methods analyze water samples for public water systems. The 2024 data reflects Astoria's treated water quality results from the Astoria Headworks Water Treatment Plant, as well as samples collected throughout the city's distribution system.

To ensure tap water remains safe to drink, the EPA enforces regulations limiting the presence of certain contaminants in public water supplies. Similarly, the U.S. Food and Drug Administration (FDA) establishes limits for contaminants in bottled water, ensuring comparable protection for public health.

The City of Astoria consistently meets or exceeds federal and state requirements for safe drinking water. Drinking water sources—including rivers, lakes, streams, ponds, reservoirs, springs, and wells—naturally absorb minerals and, in some cases, radioactive material. As water moves through the environment, it can also pick up substances from animal activity and human sources.

## POTENTIAL SOURCE WATER CONTAMINANTS INCLUDE:



Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from agriculture urban runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Routine sampling is done on the finished drinking water to ensure that the drinking water delivered to the customers is safe.

The City does not routinely test source water for these contaminants. The City takes pride in the way we manage our watershed. With proper management, the risk of contamination is greatly reduced.

# 2024 WATER QUALITY DATA

| Contaminants | Test Date | Your Water | Violation | MCLG | MCL | Typical Source |
|---|---|---|---|---|---|---|
| **INORGANIC CONTAMINANTS** | | | | | | |
| Fluoride | 2024 | Highest: 1.04 ppm | No | 4 ppm | 4 ppm | Erosion of natural deposits; water additive that promotes strong teeth; Yearly average: 0.73 ppm |
| Nitrate | 2024 | 0.333 ppm | No | 10 ppm | 10 ppm | Runoff from fertilizer use; leaking from septic tanks, sewage, and erosion of natural deposits |
| Barium | 2020 | 0.00652 ppm | No | N/A | 2.0 ppm | Erosion of natural deposits |
| Sodium | 2020 | 6.50 ppm | No | N/A | N/A | Naturally occurs in all drinking water sources |
| Uranium | 2020 | Non-detect | No | N/A | 30 ppb | Naturally occurs in some drinking water sources |
| Combined Radium (-226 and -228) | 2020 | Non-detect | No | 0.0 pCi/l | 5.0 pCi/L | Naturally occurs in some drinking water sources |
| **RESULTS OF LEAD AND COPPER TESTING** *(90TH PERCENTILE CONCENTRATIONS FROM 30 SAMPLE SITES)* | | | | | | |
| Lead | 2024 | 1.56 ppb | No | 0 ppb | AL = 15 ppb | Corrosion of household plumbing; erosion of natural deposits |
| Copper | 2024 | 0.274 ppm | No | 1.3 ppm | AL = 1.3 ppm | Corrosion of household plumbing; erosion of natural deposits; wood preservative leaching |
| **DISINFECTION BY PRODUCTS, BYPRODUCT PRECURSORS AND DISINFECTION RESIDUALS** | | | | | | |
| Total Trihalomethanes (TTHMs) | 2024 | 41.7 ppb (Running Annual Avg.) | No | N/A | 80 ppb | Byproduct of drinking water disinfection; Range: 16.1 – 60.7 ppb |
| Haloacetic Acids (HAA5) | 2024 | 38.9 ppb (Running Annual Avg.) | No | N/A | 60 ppb | Byproduct of drinking water disinfection; Range: 13.3 – 67.9 ppb |
| Chlorine | 2024 | Highest: 1.99 ppm | No | MRDLG = 4 ppm | MRDL = 4 ppm | Water additive used to control microbes; Average: 0.95 ppm; Range: 0.21 – 1.99 ppm at distribution points |
| **MICROBIOLOGICAL CONTAMINANTS** | | | | | | |
| Turbidity | 2024 | Highest: 0.23 NTU | No | N/A | TT = 95% of daily readings ≤ 1 NTU | Soil runoff; Yearly average: 0.06 NTU |

# GLOSSARY OF TERMS

- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goals as feasible using the best available 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.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there are no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbes.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary to control microbial contaminants.
- **Parts Per Million (ppm) or Parts Per Billion (ppb):** These units describe the level of detected contaminants. One part per million would be the equivalent of one drop of water in approximately 130 gallons. Parts per billion would be one drop of water in approximately 130,000 gallons of water.
- **Haloacetic Acids and Total Trihalomethanes:** Disinfection byproducts that result from a chemical reaction between chlorine and naturally occurring organic or inorganic matter in the water. The disinfection process is carefully controlled to remain effective while keeping disinfection byproducts low.
- **Nephelometric Turbidity Units (NTU):** Turbidity is a measure of the cloudiness of water and is measured in nephelometric turbidity units (NTU). Precipitation and snow melt are the greatest contributors to turbidity and make disinfection more difficult.
- **Fluoride:** Fluoride is a naturally occurring trace element in groundwater and at low levels helps prevent dental cavities.
- **Nitrates:** Nitrates are found at extremely low levels in both surface and groundwater sources. High levels of nitrates exceeding the Maximum Contaminant Level can contribute to health problems.
- **Pico-Curies per Liter or pCi/L:** a measure of the radioactivity in water.

# ACCORDING TO THE EPA

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Contaminants do 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 Safe Drinking Water Hotline 1-800-426-4791.

Immuno-compromised people (such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some senior citizens, and infants) may be more vulnerable to contaminants in drinking water than the general population. These people should seek advice about drinking water from their health care providers.

The results were fully compliant with EPA standards, with only 1 site that exceeded the action level for lead.

Federal guidelines from the EPA and the Center for Disease Control regarding the appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

# PREVENTING LEAD IN THE WATER



The City of Astoria, along with all water systems, was required by the Environmental Protection Agency (EPA) under the Lead and Copper Rule Revisions (LCRR) to complete an inventory of water service lines to identify any lead-containing pipes. Service lines refer to the pipes that run from the water main to the water meter and from the meter to the home. Please note, this inventory did not include internal household plumbing.

We are pleased to report that no lead service lines were found!

This comprehensive inventory was conducted through a combination of historical record reviews, field observations by utility workers during routine tasks such as repairing water leaks, reading or replacing meters, and other service line work, as well as statistical sampling. A random selection of 351 homes underwent inspections of both public and homeowner-side service lines. This sampling approach provides a 95% statistical confidence level that no lead service lines exist in our system.

Lead in drinking water, primarily from materials and components associated with service lines and home plumbing, can pose serious health risks, particularly for pregnant women and young children. Although the City of Astoria is responsible for providing high-quality drinking water, it cannot control the variety of materials used in plumbing components. To minimize potential lead exposure, we recommend flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking, especially if the water has been sitting in the pipes for several hours.

If you are concerned about lead in your water, you may wish to have it tested. More information on lead in drinking water, testing methods, and steps you can take to reduce exposure is available through the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

The City routinely monitors tap water samples for lead and copper every three years. In 2024, sampling was conducted at 30 random homes with plumbing that may contribute to elevated lead and copper levels. The results were fully compliant with EPA standards, with only 1 site that exceeded the action level for lead. The next round of sampling is scheduled for June 2027.

# ABOUT ASTORIA'S WATER SYSTEM

Astoria's Water System: Pure, Reliable, and Locally Sourced
Astoria's water comes exclusively from the Bear Creek Watershed, a 3,700-acre protected area located about 12 miles east of the city near Svensen. Owned and managed by the City, this pristine watershed supplies water from multiple sources, including Main Lake, Middle Lake, Bear Creek, Cedar Creek, and Spur 14 Creek.

Water is filtered at a slow sand filtration system built in 1993, ensuring high-quality drinking water. From there, a 12-mile-long, 21-inch steel pipeline transports water to town, also supplying seven other water districts along the way.

To meet storage and distribution needs, Astoria has two major reservoirs holding a combined 25.5 million gallons, along with four booster pump stations, a 131,000-gallon tank serving higher elevations, and two 150,000-gallon tanks to better serve the east side of Astoria. The city's 80-mile network of water mains—some dating back to 1895—delivers water to over 4,000 meters, 448 fire hydrants, and over 1,000 control valves.

The Oregon Health Authority has assessed Astoria's water source, identifying soil erosion as the primary potential contaminant. Despite this, the City's proactive management ensures a safe, clean, and reliable water supply for all residents.

# WATER SYSTEM MAINTENANCE

You may have seen utility workers opening fire hydrants and releasing large amounts of water—and wondered why. Each year, the City of Astoria conducts hydrant flushing, a crucial maintenance practice with several benefits:

1. Removes Sediment – Over time, sediment can accumulate in water mains. Flushing helps clear it out, reducing the chance of sediment reaching your tap.
2. Identifies Hydrant Issues – This process allows the City to inspect hydrants and address any necessary repairs.
3. Ensures Proper Flow and Pressure – During flushing, the City assesses water pressure and flow rates to ensure the hydrants and water system are prepared for emergencies, such as fires.

**Temporary Water Changes**

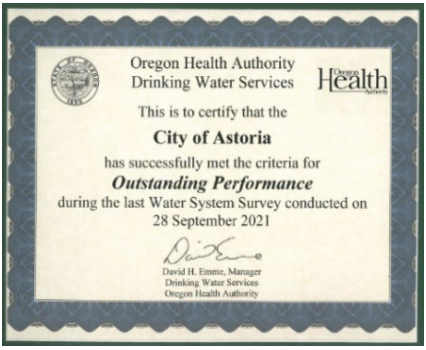
During hydrant flushing, you may notice temporary changes in your water:

- Lower Water Pressure – The high volume of water being released may temporarily reduce pressure.
- Discolored Water – Your water may have a slight orange tint due to iron sediment from cast iron pipes. This is harmless and should clear up after flushing.

Hydrant flushing is an essential part of maintaining a safe and reliable water system. If you have concerns about your water quality during this process, running your tap for a few minutes can help clear any discoloration.

# ASTORIA CONTINUES TO EXCEED FEDERAL & STATE WATER QUALITY STANDARDS

The City of Astoria has been recognized as an Outstanding Performer in its water system survey by the Oregon Health Authority (OHA). This designation is awarded to water systems that demonstrate exceptional management, compliance with state and federal regulations, and a strong commitment to providing safe, high-quality drinking water to the community.




Astoria's dedication to proactive maintenance, rigorous water quality monitoring, and effective system operations has set a high standard for excellence. This recognition reflects the hard work of our utility staff and reinforces our commitment to delivering clean, reliable water to our residents.

## CONTACT US

At the City of Astoria, we deeply value our customers and are committed to ensuring your satisfaction. To stay informed about issues affecting your water and community, we encourage you to attend a City Council meeting. Meetings are regularly scheduled on the 1st and 3rd Mondays of each month.

For more information, please visit www.astoria.gov.

The Oregon Health Authority has assessed Astoria's water source and identified soil erosion as the primary potential contaminant. However, the City's proactive management ensures a safe, clean, and reliable water supply for all residents. For more information about this assessment, please contact Jason Miles using the contact information below.

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*utilities@astoria.gov*

**Water Emergencies?**
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**General Inquiries?**
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