

ANNUAL WATER QUALITY REPORT

Reporting Year 2021



Presented By
City of Woodland

For more information about this report, or for any questions relating to your drinking water, please call the Woodland Public Works Department at (530) 661-5962 or email pubworks@cityofwoodland.org.

Para más información acerca del reporte o si tiene preguntas acerca del agua potable por favor llame al Departamento de Obras Públicas de la Ciudad de Woodland al (530) 661-5962 o envíe un correo electrónico a pubworks@cityofwoodland.org.

Property owners, please share this information with your tenants!

Dear Woodland Water Customer,

The City of Woodland is proud to provide this 2021 water quality report and inform you that your tap water met all state and federal drinking water standards. Over 1,000 water quality samples were taken in 2021 to ensure you're receiving the highest-quality drinking water.

2021 was one of the driest years ever recorded in California. The American West's megadrought deepened so much last year that it's now the driest in at least 1,200 years, according to a study in the journal *Nature Climate Change*. The dry conditions and lack of precipitation present numerous challenges for water supply but also accentuate the benefits of the city's water supply planning efforts. The past 10 years of investment in water infrastructure are paying dividends now.

The city's primary water source was and will continue to be treated Sacramento River surface water - 75 percent of the total water supply in 2021. To prepare for droughts, the city constructed three aquifer storage and recovery (ASR) wells to store high-quality treated Sacramento River water in the underground aquifer. Stored ASR water is the secondary water source and made up 15 percent of the total water supply in 2021. The city also tapped its tertiary water source in 2021, local groundwater, which is blended with treated Sacramento River water prior to delivery to customers. This ensures that all customers receive high-quality water throughout the year. Water from these wells made up 10 percent of Woodland's water portfolio in 2021.

Since converting the water system to surface water in 2016, 2021 is the first year that Woodland provided a mixture of surface water and groundwater. Water quality results are displayed for both sources, but it's important to understand that no Woodland water customers received water reflective of the groundwater testing results since groundwater was always blended with surface water. Groundwater never exceeded 19 percent of the water supply blend for any given month.

With the drought continuing into 2022, Woodland faces even more significant water right curtailments, but the water quality is likely to be very similar to that of 2021 thanks to advanced planning by the city and the Woodland-Davis Clean Water Agency (WDCWA). Our staff is available if you have questions or concerns about your water.

Sincerely,

Tim Busch, Principal Utilities Civil Engineer

Source Water Assessment

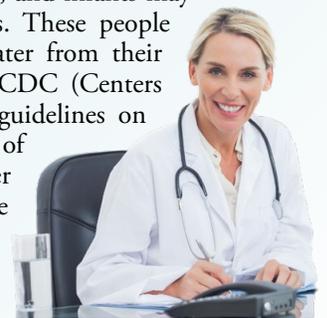
The State Board, Division of Drinking Water, requires water providers to conduct a source water assessment (SWA) to help protect the quality of future water supplies. The SWA describes where a water system's drinking water comes from, the type of polluting activities that may threaten source water quality, and an evaluation of the water's vulnerability to those threats.

The source water assessment for the Sacramento River was conducted by several agencies and identified eight potential watershed contaminant sources: agricultural drainage, livestock, forest activities, river corridor and river recreation, stormwater and urban runoff, industrial NPDES dischargers, wastewater facilities, and watershed spills. The report states: "Overall, the Sacramento River continued to provide good-quality raw water. The raw water can currently be treated to meet all drinking water standards using conventional water treatment processes." The Sacramento River Watershed Sanitary Survey 2020 Update Report can be found here: cityofwoodland.org/SacramentoRiverSanitarySurvey.

Important Health Information

Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or water.epa.gov/drink/hotline.



Lead in Home Plumbing

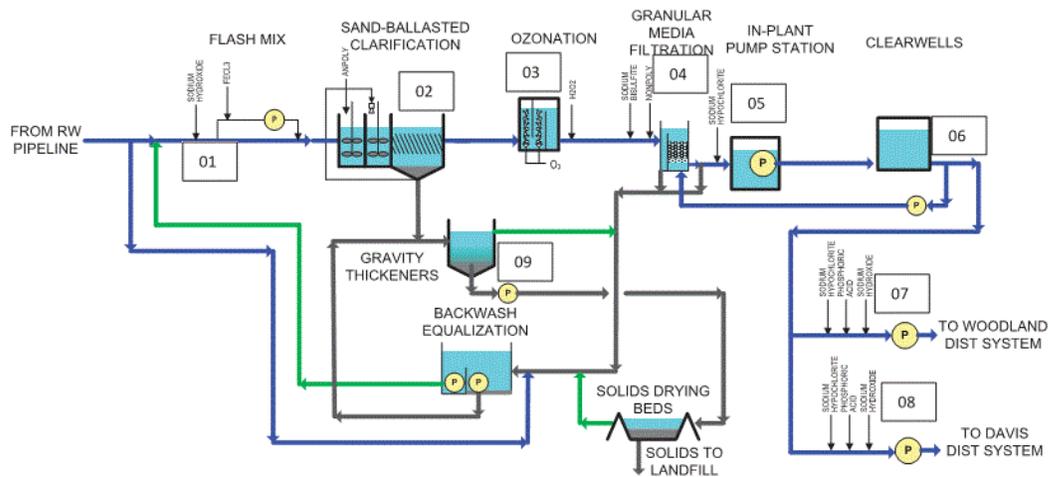
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in 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 two minutes before using water for drinking or cooking. (If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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 at (800) 426-4791 or epa.gov/safewater/lead.

Where Does Your Water Come From?

The City of Woodland has two sources of drinking water: surface water (primary supply) and groundwater (backup supply).

Surface water is pumped from the Sacramento River to the WDCWA's regional water treatment facility (RWTF) for various treatment processes (see diagram) and the addition of chlorine (for disinfection) prior to distribution. For more information about the RWTF, visit wdcwa.com. Surface water is also stored below ground in the city's three ASR wells for use in summer months to supplement WDCWA water. The city intends to meet demand primarily through the use of treated surface water and stored ASR water but also maintains four active groundwater wells and two standby wells as backup water sources. Groundwater is treated with liquid chlorine (sodium hypochlorite) at the wells for disinfection. When groundwater sources are needed, the city prioritizes the use of wells that blend groundwater with the primary surface water supply prior to distribution to maintain high-quality drinking water for all customers.

Surface Water Treatment Process



Substances That Could Be in 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. 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.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

Though results are shown for surface water from the Woodland Davis Clean Water Agency's Regional Water Treatment Facility (WDCWA RWTF) and groundwater (City of Woodland Wells) as distinct sources, it's important to understand that no Woodland customers received water reflective of the groundwater testing results since groundwater was always blended with surface water and never exceeded 19 percent of the water supply blend in 2021.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	WDCWA RWTF		City of Woodland Wells		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Barium (ppm)	2019	1	2	NA	NA	0.25	NA	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Bromate (ppb)	2021	10	0.1	0.4	ND–1.3	NA	NA	No	By-product of drinking water disinfection
Chlorine (ppm)	2021	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.89	0.8–0.9	NA	NA	No	Drinking water disinfectant added for treatment
Chromium, Total (ppb)	2019	50	(100)	NA	NA	17	NA	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Control of DBP Precursors [TOC] (ppm)	2021	TT	NA	0.945	0.36–2.3	NA	NA	No	Various natural and human-made sources
HAA5 [sum of 5 haloacetic acids]–Stage 2 (ppb)	2021	60	NA	3.8	ND–7.6	NA	NA	No	By-product of drinking water disinfection
Hexavalent Chromium (ppb)	2021	NS ¹	0.02	0.18	NA	17.67	15–20	No	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Nitrate [as nitrogen] (ppm)	2021	10	10	ND	NA	5.7	5.2–6.9	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2019	50	30	NA	NA	13	NA	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
TTHMs [total trihalomethanes]–Stage 2 (ppb)	2021	80	NA	15.3	5.7–21	NA	NA	No	By-product of drinking water disinfection
Uranium (pCi/L)	2016	20	0.43	NA	NA	1.6	NA	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2019	1.3	0.3	0.0715	0/35	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2019	15	0.2	ND	0/35	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	WDCWA RWTF		City of Woodland Wells		VIOLATION	TYPICAL SOURCE		
		SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH			AMOUNT DETECTED	RANGE LOW-HIGH
Chloride (ppm)	2021	500	NS	30	NA	NA	NA	No	Runoff/leaching from natural deposits; seawater influence
Odor, Threshold (TON)	2020	3	NS	1.6	1.2–2	NA	NA	No	Naturally occurring organic materials
Specific Conductance (µmho/cm)	2021	1,600	NS	240	NA	1,000 ²	NA	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2021	500	NS	6.4	NA	NA	NA	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2021	1,000	NS	143	110–180	NA	NA	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2021	5	NS	0.03	0.03–0.04	NA	NA	No	Soil runoff

UNREGULATED SUBSTANCES³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	WDCWA RWTF		City of Woodland Wells	
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Boron (ppm)	2021	NA	NA	2.2	NA
Calcium (ppm)	2021	14	11–21	71 ²	NA
Chlorate (ppb)	2021	157	79–290	NA	NA
Hardness, Total [as CaCO ₃] (ppm)	2021	78	62–100	400 ²	NA
Magnesium (ppm)	2021	7.5	NA	54 ²	NA
pH (units)	2021	7.9	7.9–7.9	8 ²	NA
Phosphate (ppm)	2021	2	1.9–2.1	NA	NA
Sodium (ppm)	2021	25	NA	66 ²	NA

¹ There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

² Sampled in 2019.

³ Unregulated contaminant monitoring helps U.S. EPA and the State Board determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

AL (Regulatory Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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 are set by the U.S. EPA.

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.

MRDLG (Maximum Residual Disinfectant 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TON (Threshold Odor Number): A measure of odor in water.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

µmho/cm (micromhos per centimeter): A unit expressing the amount of electrical conductivity of a solution.