ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono (361) 749-5201.

Presented By

Nueces County WCID #4

PWS ID#: TX1780006

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water.
- Monitoring and inspecting machinery, meters, gauges, and operating conditions.
- Conducting tests and inspections on water and evaluating the results.
- Maintaining optimal water chemistry.
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels.
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Important Health Information

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immunocompromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

All drinking water supplied by the Nueces County Water Control & Improvement District No. 4 comes from a surface water system consisting of Lake Corpus Christi, Choke Canyon Reservoir, and Lake Texana. Water stored in Lake Corpus Christi and Choke Canyon makes its way down the Nueces River to intake pumps at Calallen. As water travels over the land's surface and down the river, it dissolves naturally occurring minerals and picks up other contaminants. Untreated water may contain bacteria, viruses, salts, and various organic chemicals.

The untreated river water is moved by pipeline to either the O. N. Stevens Water Treatment Plant near Calallen or the San Patricio Municipal Water District (MWD) treatment plant near Ingleside. Lake Texana water is pumped through the 101-mile Mary Rhodes Pipeline directly to the O. N. Stevens plant, where it is blended with water from the Nueces River.

Nueces County Water Control & Improvement District No. 4 purchases treated water from San Patricio MWD using our pumping station located in Aransas Pass and from Corpus Christi using the pumping station located just north of Mustang Island State Park on Highway 361. Both treatment plants purify water through a process of chemical treatment, settling, filtration, and disinfection. Water treatment chemicals are added to remove impurities, kill harmful bacteria, eliminate tastes and odors, and help prevent tooth decay. The same quality drinking water is then delivered to all residential, commercial, and industrial customers. For more information about your watershed, visit Drinking Water Watch at http://dww2.tceq.texas.gov/DWW/.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Scott Mack, District Manager, at (361) 749-5201.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must 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 these contaminants does not necessarily indicate that the water poses a health risk.

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 can acquire naturally occurring minerals, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

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

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

Pesticides and Herbicides, which 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 may also come from gas stations, urban stormwater runoff, and septic systems;

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

Contaminants may be found in drinking water that may cause taste, color, or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor, or color of drinking water, please contact our business office. For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

The Texas Commission on Environmental Quality (TCEQ) has completed a source water assessment for all drinking water systems that own their sources. The report describes the susceptibility and types of constituents that may come into contact with your drinking water source based on human activities and natural conditions. The systems from which we purchase our water received the assessment reports; you may view them at https://www.tceq.texas.gov/gis/swaview. For more information on source water assessments and protection efforts at our system, contact Scott Mack, District Manager, at (361) 749-5201.

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. This water supply is 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 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 at www.epa.gov/safewater/lead.

Sampling Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and 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.

The percentage of total organic carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set (unless a TOC violation is noted in the Violation column).

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

				Nueces County WCID #4		Corpus Christi		San Patricio MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Atrazine (ppb)	2022	3	3	NA	NA	NA	NA	0.1	NA	No	Runoff from herbicide used on row crops
Barium (ppm)	2022	2	2	NA	NA	0.10	NA	0.1150	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters (pCi/L)	2020	50[1]	0	NA	NA	7.0	NA	9.7[2]	NA	No	Decay of natural and human-made deposits
Chloramines (ppm)	2022	[4]	[4]	2.24	1.57–2.83	NA	NA	NA	NA	No	Water additive used to control microbes
Cyanide (ppb)	2022	200	200	NA	NA	85	30–180	NA	NA	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2022	4	4	NA	NA	0.32	NA	0.675	0.33–0.98	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 1 (ppb)	2022	60	NA	26	7.9–31.8	NA	NA	23.8	10.0–37.0	No	By-product of drinking water disinfection
Nitrate (ppm)	2022	10	10	0.4	0.35–0.4	0.39	NA	2.6	1.8–3.1	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [total trihalomethanes]–Stage 1 (ppb)	2022	80	NA	67	30.3 - 67	NA	NA	25.9	18.0–38.0	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2022	TT	NA	NA	NA	NA	NA	0.195	0.03–0.195	No	Soil runoff

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

				Nueces County WCID #4		Corpus Christi		San Patricio MWD			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2022	1.3	1.3	0.31	0/30	NA	NA	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	15	0	8.6	1/30	NA	NA	NA	NA	No	Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SCL	MCLG	Nueces County WCID #4 AMOUNT DETECTED	Nueces County WCID #4 RANGE LOW-HIGH	Corpus Christi AMOUNT DETECTED	Corpus Christi RANGE LOW-HIGH	San Patricio MWD AMOUNT DETECTED	San Patricio MWD RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2022	200	NA	NA	NA	124	NA	0.0374	NA	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2022	300	NA	NA	NA	128	NA	150	110–208	No	Runoff/leaching from natural deposits
Manganese (ppb)	2022	50	NA	NA	NA	2.1	NA	0.001	NA	No	Leaching from natural deposits
pH (units)	2022	>7.0	NA	NA	NA	NA	NA	7.62	6.95–8.2	No	Naturally occurring
Sulfate (ppm)	2022	300	NA	NA	NA	78	NA	60	48–71	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2022	1,000	NA	NA	NA	472	NA	460	352–613	No	Runoff/leaching from natural deposits
Zinc (ppm)	2022	5	NA	NA	NA	NA	NA	0.196	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES [4]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Nueces County WCID #4 AMOUNT DETECTED	Nueces County WCID #4 RANGE LOW-HIGH	Corpus Christi AMOUNT DETECTED	Corpus Christi RANGE LOW-HIGH	San Patricio MWD AMOUNT DETECTED	San Patricio MWD RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2022	NA	NA	4.8	NA	5.03	4.1–5.9	By-product of drinking water disinfection
Bromoform (ppb)	2022	NA	NA	9.0	NA	10.3	6.1–13.5	By-product of drinking water disinfection
Chloroform (ppb)	2022	NA	NA	1.7	NA	1.68	1.2–2.5	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2022	NA	NA	8.8	NA	8.6	6.6–10.5	By-product of drinking water disinfection
Hardness (ppm)	2022	NA	NA	163	NA	183	148–240	Naturally occurring calcium and magnesium

[1] The MCL for beta particles is 4 millirems per year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.
[2] Sampled in 2018.
[3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.
[4] Unregulated contaminants are those for which U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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

MCL (Maximum Contaminant Level): 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.

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 allow for a margin of safety.

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.

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.

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).

SCL (Secondary Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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