



ANNUAL WATER
QUALITY
REPORT

REPORTING YEAR 2018

Presented By
**Nueces County
WCID #4**

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

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Our Mission Continues

We are once again pleased to present our annual water quality report. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. 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.

Source Water Assessment

The 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 report. For more information on source water assessments and protection efforts at our system, contact Mark Young, District Manager, at (361) 749-5201.

Source Water Assessment:
<https://www.tceq.texas.gov/gis/swaview>



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 of the 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 either to the O.N. Stevens Water Treatment Plant near Calallen or to the San Patricio Municipal Water District Treatment Plant near Ingleside. Lake Texana water is pumped through the 101-mile Mary Rhodes Pipeline directly to the O.N. Stevens Treatment Plant, where it is blended with water from the Nueces River.

The Nueces County WCID No. 4 purchases treated water from San Patricio MWD, with our pumping station located in Aransas Pass, and from Corpus Christi, with 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 high-quality drinking water is then delivered to all residential, commercial, and industrial customers.

Drinking Water Watch: <http://dww2.tceq.texas.gov/DWW/>

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

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 that 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 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.

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 2 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.

Community Water Fluoridation

The safety and benefits of fluoride are well documented. For over 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25% in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level.

Nearly all water contains some fluoride, but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth

decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the U.S. Because of its contribution to the dramatic decline in tooth decay, the Centers for Disease Control and Prevention (CDC) named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: cdc.gov/fluoridation)

QUESTIONS?

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



We remain vigilant in delivering the best-quality drinking water

Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, inorganic, volatile, organic, or synthetic organic contaminants. The tables show only these contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of the 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.

The percentage of Total Organic Carbon (TOC) removal was measured each month, and the system met all TOC removal requirements set.

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)	2018	3	3	NA	NA	0.14	0–0.14	0.14	NA	No	Runoff from herbicide used on row crops
Barium (ppm)	2018	2	2	NA	NA	0.09	0.0872–0.0897	0.129	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloramines (ppm)	2015	[4]	[4]	2.55	0.70–4.08	NA	NA	NA	NA	No	Water additive used to control microbes
Combined Radium (pCi/L)	2012	5	0	NA	NA	NA	NA	1.0	NA	No	Erosion of natural deposits
Cyanide (ppb)	2018	200	200	NA	NA	180	90–180	NA	NA	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	2018	4	4	NA	NA	0.38	0.36–0.38	0.588	0.07–0.91	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2018	60	NA	27	9.6–31.6	NA	NA	25.9	15–55	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	0.22	0.19–0.22	0.19	0.14–0.27	2.25	1.3–2.9	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	55	27.6–67.7	NA	NA	28.7	16–64	No	By-product of drinking water disinfection
Turbidity ¹ (NTU)	2017	TT	NA	NA	NA	0.22 ²	0.03–0.22 ²	0.25	0.01–0.25	No	Soil runoff

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	1.3	0.15	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2016	15	0	4.4	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Corpus Christi			San Patricio MWD			VIOLATION	TYPICAL SOURCE
		SCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Aluminum (ppb)	2018	200	NA	0.18	0.179–0.180	0.0409	NA	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2018	300	NA	164	138–209	124	44–182	No	Runoff/leaching from natural deposits
Manganese (ppb)	2018	50	NA	NA	NA	1.4	NA	No	Leaching from natural deposits
pH (Units)	2018	>7.0	NA	NA	NA	7.77	6.95–8.3	No	Naturally occurring
Sulfate (ppm)	2018	300	NA	95	76–122	41.75	11–62	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2018	1,000	NA	604	491–760	415	190–557	No	Runoff/leaching from natural deposits
Zinc (ppm)	2017	5	NA	NA	NA	0.0435 ²	NA ²	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED AND OTHER SUBSTANCES ⁴

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Corpus Christi		San Patricio MWD		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Bromodichloromethane (ppb)	2018	8.4	6.5–8.4	7.62	4.9–16	By-product of drinking water disinfection
Bromoform (ppb)	2018	5.2	2.7–5.2	7.14	0.5–25	By-product of drinking water disinfection
Chloroform (ppb)	2018	4.1	2.4–4.1	4.17 ³	1.4–8.9 ³	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2018	7.9	7.0–7.9	9.90	1.6–25	By-product of drinking water disinfection
Hardness (ppm)	2018	223	182–285	176	112–224	Naturally occurring calcium and magnesium

¹Turbidity 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.

²Sampled in 2018.

³Sampled in 2017.

⁴Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the 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 that, 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. 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.