2009 Annual Water Quality Report

CORPUS CHRISTI, TEXAS

Dear Water Customers,

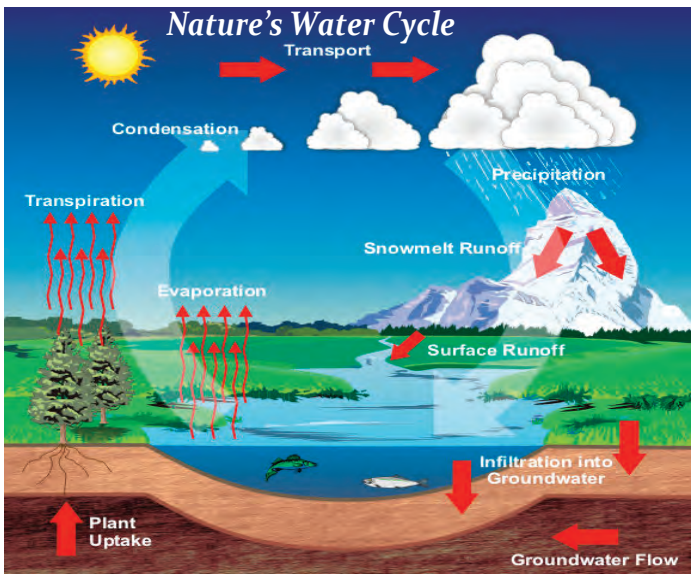
Since 1989, local residents have received an annual water quality report from the City of Corpus Christi Water Department. Our responsibility is to deliver the best product at an affordable price to our customers.

Highly trained professionals take steps to perform extensive water quality monitoring and testing so that our water supply meets or exceeds all federal and state drinking water requirements. We are mindful of our responsibility to provide you with a safe product at all times.

We encourage you to read this report so that you may better understand water quality issues in our community.

Nueces River Clean Up Becomes a Priority

Residents living along Nueces River play a significant role in the region's water quality. This was evident to the newly organized members of the Alliance for Nueces River Source Water Protection, who took time to tour the river by boat and witnessed the need to establish an action plan. Pollution comes in many forms, and it becomes everyone's responsibility to take part in personal property cleanup and pollution reduction.



Know More About the Source of Your Drinking Water

The City's water is obtained from a combination of water sources. The Atascosa River and the Nueces River supply water to Lake Corpus Christi, while the Frio Rio supplies water to Choke Canyon Reservoir. Water from Lake Texana is transported through the 101 mile Mary Rhodes Pipeline. The raw water enters the O. N. Stevens Water Treatment Plant where the process of disinfection and filtration begins.

The sources of drinking water, whether it is tap or bottled water, comes from rivers, lakes, streams, ponds, reservoirs, springs or wells. As water travels over the surface of the land, it dissolves naturally occurring minerals and in some cases, radioactive material, and picks up substances resulting from the presence of animals or from human or industrial activity. Contaminants that may be present in a water source before treatment include: microbes, inorganic contaminants, pesticides, radioactive contaminants and organic chemical contaminants.

A Source Water Susceptibility Assessment of our drinking water sources is currently being updated by the Texas Commission on Environmental Quality and will be provided later this year. The report will be posted to our web site at www.corpuschristiwater.com as it becomes available. The report describes the susceptibility and types of constituents that may come in contact with our supply water source based on human activities and natural conditions. The information contained in the assessment will allow the city to focus on source water protection strategies. For more information on source water assessments and protection efforts, at our system, please call 361-826-1200.

Este informe incluye información importante sobre el agua potable. Si tiene preguntas o comentarios sobre éste informe en español, favor de llamar al 361-826-1681 para hablar con una persona bilingüe en español.

Home Plumbing Pipes May Impact Your Exposure to Lead

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 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 or at http://www.epa.gov/safewater/lead.

A Special Notice for the Elderly, Infants, Cancer Patients, People With HIV/AIDS and Other Immune System Disorders

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA Center for Disease Control and Prevention (CDC) 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.

Spotlight on Public Participation

Make time to attend our public and staff forum
6 p.m., Wednesday, June 30, 2010
Water Utilities Conference Room
2726 Holly Road Corpus Christi, Texas

Water issues are also discussed at City Council meetings, usually held on every Tuesday, except for the first Tuesday of the month. Call (361) 880-3105 for exact date and meeting times or check the website at www.cctexas.com

For a successful garden, implement the 7 principles of Xeriscape

The Water Department, in partnership with the Xeriscape Corpus Christi Steering Committee, developed the City's award winning Xeriscape Garden and Learning Center located at the entrance of the Corpus Christi Museum of Science and History at 1900 N. Chaparral. The garden educates our community on the 7 principles of Xeriscape.

1. Planning and designing; 2. Soil preparation;
3. Proper plant selection; 4. Reduce grass areas;
5. Water efficiently; 6. Use of mulch; and
7. Maintenance.

Complete details on each of these principles are available at www.xeriscapecc.com or call (361) 826-1614 for free literature, presentations or group tours.

City of Corpus Christi Water Department

Cryptosporidium Monitoring

The City monitors for *Cryptosporidium*, a microbial parasite that may be commonly found in surface water. *Cryptosporidium* may come from animal and human feces in the watershed. The result of our monitoring indicated that there may be *Cryptosporidium* in the raw water and/or treated finished water. Although treatment by filtration removes *Cryptosporidium*, it cannot guarantee 100 percent removal. The testing methods used cannot determine if the organisms are alive and capable of causing cryptosporidiosis, an abdominal infection with nausea, diarrhea and abdominal cramps that may occur after ingestion of contamined water.

All Drinking Water May Contain Contaminants

When drinking water meets federal standards, there may not be any health based benefits to purchasing bottled water or point of use devices. 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at 800-426-4791.

2010 World of Water Celebration found Crystal Ybanez displaying several petri dishes under fluorescent lighting to demonstrate bacteria growth.

Drinking Water Quality Report 2009

Our drinking water is regulated by the Texas Commission on Environmental Quality (TCEQ). The information that follows list all of the federally regulated or monitored contaminants which have been found in our drinking water. The U.S. EPA requires water systems to test for up to 97 contaminants.

DEFINITIONS:

Action Level (AL) - The concentration of a contamination which, if exceeded, triggers treatment or other requirements which a water system must follow.
Maximum Contaminant Level (MCL) - The highest level of a contamination allowed in drinking water. MCLs are set as close to the MCLG 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.
Maximum Residual Disinfectant Level (MRDL) - The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. The limit is the running annual average.
Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health.
Most Probable Number (MPN)
Nephelometric Turbidity Units (NTU) - A measure of turbidity in water.
pico-curies per liter (pCi/L) - A measure of radioactivity.
parts per billion (ppb) - One part per billion is equal to one packet of artificial sweetener sprinkled into 250,000 gallons of iced tea.
parts per million (ppm) - One part per million is equal to one packet of artificial sweetener sprinkled into 250 gallons of iced tea.
Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.
Turbidity - A measure of clarity of drinking water.

INORGANIC CONTAMINANTS

Year / Constituent	Average	Range	MCL	MCLG	Likely Source of Contaminant
2004 Barium (ppm)	0.09	0.09 - 0.09	2	2	Discharge of drilling waste, erosion of natural deposits
2009 Fluoride (ppm)	0.96	0.96-0.96	4	4	Erosion of natural deposits, water additive
2009 Nitrate (ppm)	0.28	0.28-0.28	10	10	Petroleum/metal discharge, erosion of natural deposits
2005 Gross Beta Emitters (pCi/L)	2.05	0 - 4.1	50	0	Decay of natural/man-made deposits
2004 Selenium (ppb)	4.8	4.8 - 4.8	50	50	Erosion of natural deposits
2009 Total Trihalomethanes (ppb)	51.4	38.3 - 58.1	60	NA	By-product of drinking water disinfection
2009 Total Haloacetic Acids (ppb)	15.8	13.4 - 17.0	80	NA	By-product of drinking water disinfection

UNREGULATED INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE) FOR DISINFECTION BY-PRODUCTS

This evaluation is sampling required by EPA to determine the range of total trihalomethanes (THM) and haloacetic acids (HAA5) in the system for future regulations. The samples are not used for compliance, and may have been collected under non-standard conditions. USEPA also requires the data to be reported here.

2007 Total Haloacetic Acids (ppb)	42.0	0 - 178	NA	NA	By-product of drinking water disinfection
2007 Total Trihalomethanes (ppb)	85.8	16.8 - 508.5	NA	NA	By-product of drinking water disinfection

TOTAL ORGANIC CARBON

2009 Source Water (ppm)	6.39	5.55 - 7.19	NA	NA	Naturally present in the environrment
2009 Plant 1 (ppm)	4.37	3.72 - 5.52	NA	NA	Naturally present in the environrment
2009 Plant 2 (ppm)	4.23	3.48 - 5.39	NA	NA	Naturally present in the environrment
2009 Plant 1 Removal Ratio (% removal*)	2.29	1.03 - 5.00	NA	NA	Naturally present in the environrment
2009 Plant 2 Removal Ratio (% removal*)	2.43	1.05 - 4.89	NA	NA	Naturally present in the environrment

Total Organic Carbon (TOC) has no health effects. The disinfectant can combine with TOC to form disinfection by-products. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. By-products of disinfection include trihalomethanes (THM) and haloacetic acids (HAA5) which are reported elsewhere in this report. * Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed.

UNREGULATED CONTAMINANTS

2009 Bromodichloromethane (ppb)	9.5	9.5 - 9.5	NA	NA	By-product of drinking water disinfection
2009 Chloroform (ppb)	5.3	5.3 - 5.3	NA	NA	By-product of drinking water disinfection
2009 Dibromochloromethane (ppb)	12	12 - 12	NA	NA	By-product of drinking water disinfection
2009 Bromoform (ppb)	8.5	8.5 - 8.5	NA	NA	By-product of drinking water disinfection

Unregulated contaminants such as bromodichloromethane, chloroform, dibromochloromethane and bromoform as disinfection by-products. There is no maximum contaminant level for these chemicals at the entry point to distribution.

TURBIDITY (NTU)

Year / Constituent	Highest Single Measurement	Lowest % of Samples Meeting Limits	Entry Point MCL	Single Measurement MCL	Likely Source of Contaminant
2009 Plant 1 (NTU)	0.97	90.6	≤0.3 **	1.0	Soil runoff
2009 Plant 2 (NTU)	0.81	89.4	≤0.3 **	1.0	Soil runoff

Turbidity has no health effects; however, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches. During November 2009, the O. N. Stevens Water Treatment Plant experienced more than 5% of monthly combined filter effluent samples exceeding 0.3 NTU. This was due to the extremely high turbidity flowing into the treatment plant of water drawn from the Nueces River. ** ≤ 0.3 in 95% of the samples.

MICROBIOLOGICAL CONTAMINANTS

Year / Constituent	Highest Monthly % of Positive Samples	Unit of Measurement	MCL	Likely Source of Contaminant
2009 Total Coliform Bacteria	1.2	Presence	***	Naturally present in the environment
2009 Fecal Coliform and *E. coli*	0	Presence	****	Naturally present in the environment

*** Presence of coliform bacteria in 5% or more of the monthly samples.
**** A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive.
Fecal Coliform bacteria, in particular, *E.coli*, are members of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and are passed into the environment through feces. The presence of fecal coliform bacteria *(E. coli)* in drinking water may indicate recent contamination of the drinking water with fecal material.

LEAD AND COPPER RULE MONITORING

Year / Constituent	90th Percentile	Number of Sites Exceeding Action Level	Action Level	Likely Source of Contaminant
2009 Lead (ppb)	4.53	1	15.0	Lead and Copper are a source of corrosion of household plumbing systems. Erosion of natural deposits.
2009 Copper (ppm)	0.123	0	1.3	

MAXIMUM RESIDUAL DISINFECTANT

Year / Constituent	Average	Range	MCL	MCLG	Likely Source of Contaminant
2009 Chloramines (ppm)	2.78	2.60 - 2.88	4.0	<4.0	Disinfectant used to control microbes.

UNREGULATED CONTAMINANT MONITORING RULE 2 (UCMR2)

Year / Screening Survey List 2	Average	Range	MCL	Likely Source of Contaminant
2009 Nitrosamines (ppm) N-Nitrosodimethylamine (NDMA)	0.0069	0.0026 - 0.0147	NA	Naturally found in water or form when disinfection is added for treatment.

SECONDARY AND OTHER CONSTITUENTS - Not Associated with Adverse Health Effects

Many constituents, such as calcium, sodium, or iron, which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the USEPA. These constituents are not causes for health concern. Therefore, secondaries are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

Year / Constituent	Average	Range	MCL	Likely Source of Contamination
2004 Aluminum (ppm)	0.133	0.133 - 0.133	0.05 to 0.2	Abundant naturally occurring element
2009 Bicarbonate (ppm)	148	148 - 148	NA	Corrosion of carbonate rocks such as limestone
2004 Calcium (ppm)	49.4	49.4 - 49.4	NA	Abundant naturally occurring element
2009 Chloride (ppm)	175	175 - 175	300	Abundant naturally occurring element; used in water purification
2004 Copper (ppm)	0.001	0.001 - 0.001	1.0	Corrosion of household plumbing systems; erosion of natural deposits
2008 Hardness as Ca/Mg (ppm)	185	185 - 185	NA	Naturally occurring calcium and magnesium
2004 Magnesium (ppm)	8.1	8.1 - 8.1	NA	Abundant naturally occurring element
2004 Manganese (ppm)	0.001	0.001 - 0.001	0.05	Abundant naturally occurring element
2004 Nickel (ppm)	0.002	0.002 - 0.002	NA	Erosion of natural deposits
2009 pH	7.6	7.6 - 7.6	>7.0	Measure of corrosivity of water
2009 Sodium (ppm)	111	111 - 111	NA	Erosion of natural deposits; oil field by-product
2009 Sulfate (ppm)	95	95 - 95	300	Natural occurring; oil field by-product
2009 Total Alkalinity (ppm) as CaCO3	121	121 - 121	NA	Naturally occurring soluble mineral salts.
2009 Total Dissolved Solids (ppm)	524	524 - 524	1000	Total dissolved mineral constituents in water