

City of Corpus Christi

2001 Drinking Water Quality Report



June 2002

Dear Water Customers,

Once again, we are sending the City of Corpus Christi Water Department's annual Drinking Water Quality Report. As consumers, you recognize the importance of safe drinking water. Water professionals work hard to ensure that safeguard measures are taken to provide you with the best quality water.

We encourage you to become familiar with the report. The analyses show that we met and exceeded the requirements set by the U. S. Environmental Protection Agency (USEPA). In addition, this report complies with the regulations set forth by the USEPA, as described in the 1996 Safe Drinking Water Act Amendment (Public Law 104-182).

Our community is challenged once more with drought conditions, taking a toll on our reservoir levels. We've included water conservation tips on how you can reduce water use in your home and work environment. By voluntarily not watering our lawns between 10 a.m. and 6 p.m., we can help delay more severe restrictions on water use.

For more information, call us at (361) 857-1881. Current lake level information is available by calling the Water Hotline at 857-1600. You can also visit us online at <http://www.water.corpus-christi.tx.us/services/water>. Thank you for the opportunity to serve you. <http://www.cctexas.com/?fuseaction=main.view&page=1000>

Always at your service,

City of Corpus Christi Water Department

Our Commitment to Quality

Once again, we are proud to present our annual Water Quality Report. With a focus on customer service and efficiency in operations, we continue to strive for excellence. During 2001 we sought to improve infrastructure, responded to customer concerns, and participated in the local and state-wide committees to maintain a reliable source of drinking water for the Coastal Bend. We are committed to our community by routinely collecting and testing water samples every step of the way - from the water source right up to your home. We check for purity and identify potential problems. The City of Corpus Christi maintains a state-certified laboratory to perform required bacteriological analysis on drinking water. The laboratory is staffed with highly trained microbiologists, chemists and technicians. The laboratory is equipped with sophisticated instruments to ensure measurements are performed according to U.S. Environmental Protection Agency established procedures. We are committed to providing you with this information about your water supply, because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.



Water quality is analyzed regularly in a state-certified laboratory to ensure high standards are maintained.

What USEPA Has to Say About Drinking Water

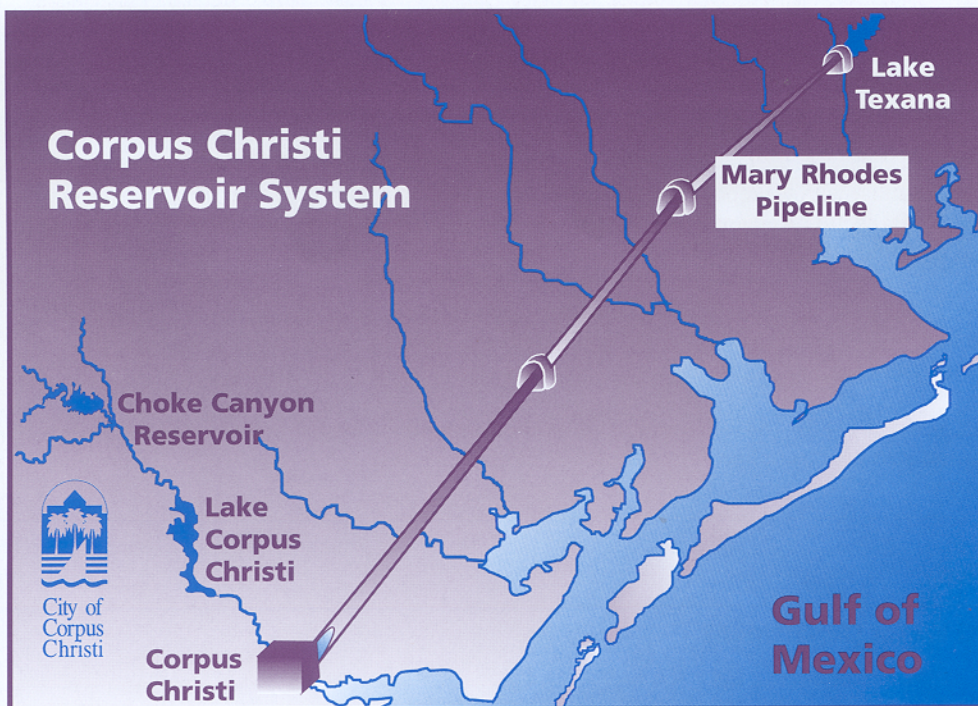
Many people are surprised to learn that ALL drinking water, including bottled water, is likely to contain some level of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. You can obtain more information about contaminants and potential health effects by calling EPA's Safe Drinking Water Hotline 800-426-4791.

Where Does My Water Come From?

Our primary drinking water supply is from surface water. Corpus Christi and surrounding communities get their drinking water from Choke Canyon Reservoir, Lake Corpus Christi and Lake Texana. The Nueces River serves to transport water that flows from Choke Canyon Reservoir and Lake Corpus Christi. Water from Lake Texana is transported through the Mary Rhodes Pipeline directly to the O. N. Stevens Water Treatment Plant where the process of making safe drinking water begins and the treated water is distributed through underground pipelines to our community.

The Safe Drinking Water Act requires all states to establish Source Water Protection Programs that analyze existing and potential threats to the quality of public drinking water. The Texas Natural Resource Conservation Commission has begun a review of all of the state's drinking water sources including those in the Coastal Bend. This source water assessment will be developed by TNRCC in several years.

Your local Water Department is part of the City of Corpus Christi. As a municipal governmental agency, we are committed to excellence in the delivery of a vital natural resource. As a resident of the city, we encourage you to be involved and to learn more about our water supply system and the quality of water. City Council meetings are held most Tuesdays at City Hall located at 1201 Leopard Street. For meeting dates and times, please call the City Secretary's office at (361) 880-3105.



Water Conservation Tips

Water conservation measures are an important step in protecting our water supply. Such measures not only save the supply of our fresh water, but also cut the cost of water treatment. Here are a few suggestions:

Saving Water Indoors

- Fix leaking faucets, pipes, toilet, etc.
- Install water-saving devices in faucets, toilets and appliances. Replace old fixtures with new ones. This will reduce water consumption by nearly one-half
- Wash only full loads of laundry
- Do not use the toilet as a trash can
- Take shorter showers. Do not let the water run while shaving, washing, brushing teeth or cleaning fruits and vegetables

Saving Water Outdoors

- Avoid watering the lawn between 10 am and 6 pm
- Follow the 7 principles of Xeriscape.
 - Use mulch around plants and shrubs
 - Repair leaks in faucets and hoses.
 - Harvest rainwater in buckets for use on indoor and patio plants
 - Use drip irrigation systems in flower beds
 - Use water from a bucket to wash your car. Place a water saving nozzles on the hose for rinsing.

Drinking Water and People with Weakened Immune Systems

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. EPA/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 1-800-426-4791.

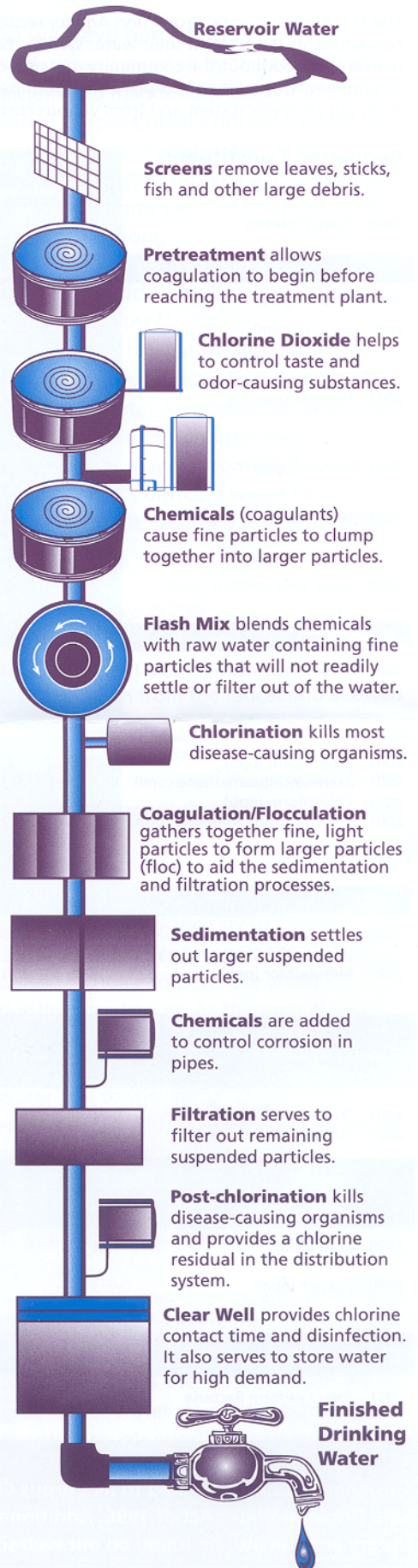
Inside A Water Treatment Plant

The Process that Makes Your Water Safe to Drink

Ever wondered how water is made safe to drink? A bucket of water drawn from the river reveals the murky water that we have to work with. This raw commodity is taken through a process of chemical treatment, disinfection, settling and filtration to make it safe to drink. Water treatment chemicals are added to remove impurities, kill harmful bacteria, eliminate taste and odors and help prevent tooth decay. The treatment process takes about 18 hours. During that time, more than 200 tests are conducted on the water.

Water can be very safe to drink and still have an unpleasant taste and odor. These are aesthetic qualities in our water and do not affect our health. Occasionally, water systems experience taste and odor problems often caused by such things as algae growth, a change of temperature or high rainfall.

Water Treatment Process



Water Quality Monitoring Results

The U.S. Environmental Protection Agency requires all water systems to provide an annual report on contaminants detected in their water system. We are pleased to report that during 2001, the water delivered throughout the community met and even exceeded all state and federal drinking water requirements. The City of Corpus Christi routinely monitors its water quality by collecting samples from our reservoir system and from various customer connections within our distribution system.

Regulated Constituents

| Year | Constituents | Corpus Christi's Water Results | | USEPA Regulations | | Source of Constituent |
|------------------|-----------------------------|--------------------------------|---------------|-------------------|------|---|
| | | Average | Range | MCL | MCLG | |
| Inorganic | | | | | | |
| 2001 | Arsenic (ppb) | 4.3 | 4.3 - 4.3 | 50 | N/A | Erosion of natural deposits. |
| 2001 | Barium (ppm) | 0.108 | 0.108 - 0.108 | 2 | 2 | Discharge of drilling waste or from metal refineries; erosion of natural deposits |
| 2001 | Fluoride (ppm) | 0.5 | 0.5 - 0.5 | 4 | 4 | Water additive which promotes strong teeth; erosion of natural deposits |
| 2001 | Nitrate (ppm) | 0.31 | 0.31 - 0.31 | 10 | 10 | Runoff from fertilizer use; erosion of natural deposits |
| 2001 | Selenium (ppb) | 4.2 | 4.2 - 4.2 | 50 | 50 | Discharge from petroleum/metal refineries; erosion of natural deposits |
| 1999 | Gross beta emitters (pCi/L) | 5.5 | 5.5 - 5.5 | 50 | 0 | Decay of natural and man-made deposits |

Trihalomethanes (USEPA 502.2)

| | | | | | | |
|------|-----------------------------|------|-------------|-----|---|---|
| 2001 | Total Trihalomethanes (ppb) | 63.8 | 43.1 - 81.1 | 100 | 0 | By-product of drinking water chlorination |
|------|-----------------------------|------|-------------|-----|---|---|

Unregulated Contaminants

| | | | | | | |
|------|----------------------------|------|------------|-----|-----|--|
| 2001 | Bromoform (ppb) | 6.2 | 5.5 - 7.0 | N/A | N/A | Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants |
| 2001 | Bromodichloromethane (ppb) | 13.4 | 9.3 - 17.6 | N/A | N/A | |
| 2001 | Chloroform (ppb) | 7.6 | 3.7 - 11.6 | N/A | N/A | |
| 2001 | Chlorodibromomethane (ppb) | 13.4 | 12 - 14.7 | N/A | N/A | |

Synthetic Organic Compound

| | | | | | | |
|------|-------------------|------|-------------|----|----|---|
| 2001 | Atrazine (ppb) | 0.32 | 0.25 - 0.39 | 3 | 3 | Runoff from herbicide used on row crops |
| 2001 | Metolachlor (ppb) | 0.26 | 0.21 - 0.31 | 40 | 40 | Runoff from herbicide used on row crops |

Turbidity

| | | Highest Single Measurement | Lowest Monthly % of Samples Meeting Limits | Turbidity Levels | |
|------|----------------------------|----------------------------|--|------------------|-------------|
| 2001 | Turbidity (NTU) - Plant I | 0.81 | 98.9% | TT/AL = 0.5 | Soil runoff |
| 2001 | Turbidity (NTU) - Plant II | 0.78 | 95.7% | TT/AL = 0.5 | Soil runoff |

Lead and Copper

| | The 90th Percentile | Number of Sites Exceeding Action Level | Action Level | | |
|------|---------------------|--|--------------|-----|---|
| 1999 | Lead (ppb) | 1.8 | 0 | 15 | Corrosion of household plumbing systems |
| 1999 | Copper (ppm) | 0.053 | 0 | 1.3 | Corrosion of household plumbing systems |

Coliform Bacteria

| | Highest Monthly % of Positive Samples | MCL | MCLG | | |
|------|---------------------------------------|------|---|---|--------------------------------------|
| 2001 | Total Coliform Bacteria | 1.7% | Presence of coliform bacteria in ≥5% of monthly samples | 0 | Naturally present in the environment |

Review of Terms

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

Maximum Contaminant Level (MCL) The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs 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.

mrem/year - Millerems per year (measurement of radiation absorbed by the body).

Nephelometric Turbidity Units (NTU) Measure of turbidity in water.

ppm - parts per million. One part per million is equal to one packet of artificial sweetener sprinkled into 250 gallons of iced tea.

pCi/L - Pico-curies per liter (a measure of radioactivity).

ppb - parts per billion. One part per billion is equal to one packet of artificial sweetener sprinkled into 250,000 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 the clarity of drinking water. The lower the turbidity, the better the taste of water.

Este reporte contiene información sobre su agua potable. Para obtener una copia de este reporte en Español, por favor llame (361) 857-1881

This annual report is mailed to all Corpus Christi water customers as required by USEPA Safe Drinking Water Act of 1996. Additional copies are available at the City's Central Library and can also be found on our web site: www.ci.corpus-christi.tx.us/services/water.

<http://www.cctexas.com/?fuseaction=main.view&page=1000>

Frequent Questions on Water Quality

How does Corpus Christi's water system rate?

Corpus Christi has a very long track record of meeting all federal, state and local standards and has received the highest possible "Superior Water System" rating by the Texas Natural Resource Conservation Commission.

What are Cryptosporidium and Giardia?

Cryptosporidium and Giardia are microscopic parasites that affect the digestive tracts of humans and animals. Corpus Christi has tested for Cryptosporidium and Giardia in both untreated river water and in treated water during 2001 and, the parasites were never detected.

What are some of the minerals, metals and other constituents found in our drinking water?

Drinking water has constituents that come from minerals and metals, which remain in the water even after treatment. During 2001, TNRCC tested a sample of our drinking water for the constituents listed below. You may be interested in the following information. These constituents do not relate to public health, but are important to the aesthetic quality of our water.

| Constituent | Value |
|--------------------|--|
| Bicarbonate | 203 ppm |
| Calcium | 69.8 ppm |
| Dilute Conductance | 1,057 umho/cm |
| pH | 7.8 |
| Sodium | 100 ppm |
| Total Alkalinity | 166 ppm |
| Total Hardness | 223 ppm or 13.05 grains per gallon |
| Chloride | 140 ppm |
| Sulfate | 83 ppm |
| Dissolved Solids | 520 ppm |

What are coliforms?

In the water industry, coliform bacteria are used as an indicator of microbial contamination of drinking water because they are easily detected and are found in the digestive tract of warm-blooded animals. While not themselves disease producers, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is bacteriologically safe for human consumption. Fecal coliform (mostly E-coli), is a portion of the coliform bacteria group originating in the intestinal tract of warm-blooded animals that passes into the environment as feces. Fecal coliform is often used as an indicator of the fecal contamination of a domestic water supply.

Does turbidity have any health effects?

Turbidity has no health effects; however, turbidity can interfere with disinfection and provide a medium for microbial growth. It may indicate the presence of disease-causing organisms which may include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches. Turbidity must be less than 0.5 NTU in 95.% of the monthly water samples.

What causes taste and odor in my drinking water?

Hot South Texas summer weather results in a rapid algae growth in our surface water reservoirs. When the problem is detected, it is controlled by using potassium permanganate at the water treatment plant. In as much as taste and odor are sometimes apparent, the water is safe to drink.

Do we have hard water?

Hard water is defined by the amount of calcium and magnesium present in the water. Corpus Christi's drinking water is considered moderately hard. Testing conducted in 2001 showed a total hardness of 223 milligrams per liter or about 13.05 grains per gallons.

Is fluoride added to Corpus Christi's drinking water?

Fluoride, which is a substance added to reduce cavities, is added to our water. The American Dental Association recommends a concentration of 1 part per million. Bottled water may or may not contain fluoride. Corpus Christi's drinking water has an average fluoride value of 0.5 parts per million (ppm).

Why does my water seem cloudy?

Water that is cloudy is often the result of air which is trapped in the water. Once the water is drawn from the faucet and allowed to settle, the water will appear clear. Air bubbles do not affect the quality of water; however, you can report this problem to the Water Department dispatcher at 857-1888.

Is my water safer with water purification devices?

Water supplied by the City of Corpus Christi is safe to drink. We recognize that it is your personal choice to purchase water purification devices. At the same time, purification devices have been known to cause problems in the quality of drinking water due to the lack of proper filter replacement. These devices are not tested or regulated by the state or federal government.

Is chlorine a safe disinfectant for drinking water?

Corpus Christi uses chlorine and ammonia to disinfect our drinking water. Chlorine has been used in municipal water treatment since 1908 and is the most effective way to ensure that water stays disinfected as it travels through our distribution system. Chlorine prevents water-borne epidemics such as cholera, typhoid, and hepatitis.

Public Meeting

A public meeting will be held on Thursday, June 27, 2002 at 6:30 p.m.
to review the contents of the 2001 Drinking Water Quality Report

Water Utilities Conference Room
2726 Holly Road · Corpus Christi, Texas