Contact CPW

For more information about this report, contact CPW's Customer Service Department at (843) 727-6800 from 8:00 am to 5:00 pm Monday through Friday. We also have information available on our web site at **www.charlestoncpw.com.**

Customer Service Locations

Main Office (Downtown): 103 St Philip Street
North Area Office: 6296 Rivers Avenue

Public Meetings

CPW's Commissioner's Meetings provide opportunities for public participation. The meetings are held monthly at 103 St Phillip Street, Charleston, SC. Call (843) 727-6856 for specific dates and times.

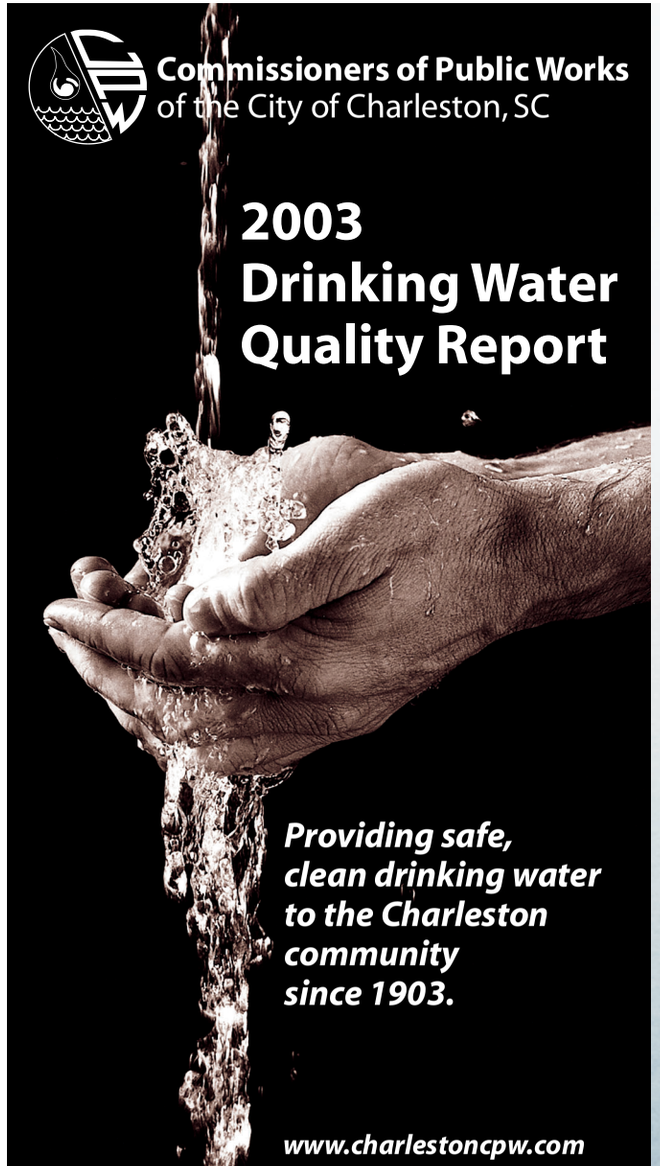
Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Commissioners of Public Works
of the City of Charleston, SC

"Our vision is to become by the year 2005, a best-in-class utility through innovation, competitiveness and quality service."

Commissioners of Public Works of the City of Charleston, SC

2003 Drinking Water Quality Report



Providing safe, clean drinking water to the Charleston community since 1903.

www.charlestoncpw.com

The Commissioners of Public Works: who we are and what we do
The Charleston Commissioners of Public Works is a publicly owned water and wastewater utility. We provide clean, safe drinking water to more than 400,000 people and wastewater service to more than 30,000 people in a service area that covers 400 square miles in parts of Charleston, Berkeley, and Dorchester Counties.

Wholesale water service
In addition to our residential and commercial customers, CPW provides water service to the following utilities on a wholesale basis: Mt. Pleasant Waterworks, Town of Sullivan's Island, Isle of Palms Water and Sewer Commission, Town of Folly Beach, City of Lincolnville, St. John's Water Company, Dorchester County Public Works, and Dorchester County Water Authority. These utilities may use all CPW water or supplement their own sources with only a portion of CPW water.

Where CPW water comes from
CPW water is treated at the Hanahan Water Treatment Plant, which uses water from the Cooper and Edisto Rivers. CPW's water plant is the largest in the state and is permitted to produce up to 118 million gallons per day.

Water Quality Standards
CPW's water treatment plant is equipped with state-of-the-art technology to produce the best quality drinking water possible at a reasonable cost. The Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (DHEC) have implemented regulations to ensure that water sold by public water systems contains no harmful contaminants. CPW meets, and in many cases, exceeds the water quality standards set forth by these regulatory bodies. The Food and Drug Administration (FDA) regulations prescribe similar limits for compounds in bottled water.

What's in CPW water?
In 2003, CPW conducted more than 43,000 tests for some 630 possible compounds in our treated water. Some are naturally occurring, such as minerals and plant matter; others are man-made compounds that may enter our source water through runoff. While the water treatment process removes many of these compounds, it is impossible to remove all compounds from the water. Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some naturally occurring or man-made compounds. This does not necessarily mean that water poses a health risk, as some compounds may be present in extremely small quantities, such as parts per billion or trillion – levels undetectable except by advanced laboratory equipment.

The few compounds found in CPW water were all at safe levels (in compliance with state and federal regulations) and are listed in Table 1. You can learn more about the potential health effects of compounds found in drinking water by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Protecting our watersheds
Keeping our lakes and rivers clean is essential to ensuring clean sources of drinking water for CPW and other water utilities. To protect the quality of South Carolina's water resources, DHEC has complied a list of the *potential* sources of contamination for each watershed in the state, including the Saluda-Edisto and Catawba River basins, where CPW draws water for treatment. DHEC's report identifies 462 entities, including gas stations, industries, farms, etc., in CPW's watershed that could potentially cause contamination of the watershed. DHEC, as well as other regulatory agencies, routinely monitor the watershed; similarly, CPW routinely monitors its source water prior to treatment. For more information about the Source Water Protection program, please visit DHEC's website at: www.scdhec.net/water/html/srcewtr.html.

A history of excellence
CPW is a nationally recognized leader in the water and wastewater industries and works to continually improve water quality and the environment. CPW was the first water or wastewater utility in the nation to earn certification from the International Standards Organization (ISO) for the implementation of an environmental protection program. In addition, CPW's Hanahan Water Treatment Plant is a member of the prestigious Partnership for Safe Drinking Water - a voluntary program for utilities who perform above and beyond what is required by state and federal regulations.

Many CPW associates are actively involved in water quality organizations and have authored research papers to help increase the body of knowledge in the industry.

FREQUENTLY ASKED QUESTIONS

Q. How is CPW water disinfected?
A. CPW uses a combination of chlorine and chloramines - a chemical formed by combining ammonia and chlorine - to kill harmful bacteria and viruses in the water. Chloramines are more stable than chlorine in the water distribution system and chloramine residuals help maintain consistent water quality. The amount of chemicals is carefully measured to the lowest level needed to keep the water free of disease-causing organisms.

Q. Does CPW water contain fluoride?
A. Yes. CPW adds one milligram per liter (mg/l) or one part per million (ppm) of fluoride to treated water. This is the amount recommended by the American Dental Association to provide maximum protection against tooth decay.

Q. What causes water to have a taste or odor?
A. There are a variety of factors that can impact the taste or smell of tap water but not change the quality of the water. In CPW's case, algae in our surface water - when put through the treatment process - can give off harmless compounds that may cause the water to taste earthy or musty. In most cases, taste and odor is a purely aesthetic concern, and is not a reliable indicator of water quality.

Q. Should I be concerned about *Cryptosporidium* or *Giardia*?
A. No. CPW has extensively monitored for both protozoan organisms in our raw water sources and found there to be a very low occurrence of these pathogenic organisms. Furthermore, the treatment plant has multiple barriers of protection such as enhanced chemical coagulation, filtration, disinfection, and careful monitoring of turbidity to ensure the optimum removal of these organisms. However, for people with compromised immune systems, the EPA and the US Center for Disease Control offer the following advisory statement:

> *Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with HIV/AIDS or other immune system disorders, persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, some elderly and some infants can be particularly at risk from infections. These people should seek advice 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 (1-800-426-4791).*

Q. Should I be concerned about the sodium level of CPW water?
A. No. Our water has a very low sodium level (18mg/l or less). This is substantially lower than most well water supplies and many bottled water brands.

Q. What is turbidity?
A. Turbidity is a measurement of the clarity of the water and is an indicator of overall water quality. CPW measures the turbidity of the water on a continuous basis and consistently produces excellent quality water.

2003 WATER QUALITY SAMPLING RESULTS

The information in the following Tables covers the period of **January 2003 to December 2003.** The data presented is from the most recent monitoring done in compliance with regulations.

Charleston CPW System - Table One

	Parameter	Units	CPW Water Highest Level Detected	Range or Other Comments	MCL	Date Sampled	MCLG	Possible Sources in Water
REGULATED	Total Coliform Bacteria	% positive samples	1.5 % highest level detected in any monthly sample	0% to 1.5 %	presence of coliform bacteria in >5% of monthly samples	2003	0%	naturally present in the environment (all repeat samples were satisfactory)
	Turbidity	NTU	0.22	100% lowest monthly % of samples meeting limits	TT	2003	NA	soil runoff
	Copper	ppm	0.05	no samples exceeded the action level	AL=1.3	2003	1.3	corrosion of household plumbing materials
	Lead	ppb	4	no samples exceeded the action level	AL= 15	2003	0	corrosion of household plumbing materials
	Combined Radium	pCi/l	4.9	NA	5	2002	0	erosion of natural deposits
	Nitrate/Nitrogen	ppm	0.086	NA	10	2003	10	runoff from fertilizers
	Fluoride	ppm	0.89	0.75 to 0.89	4	2003	4	additive to reduce tooth decay
	Total Trihalomethanes	ppb	RAA: 54	34 to 81	80	2003	NA	byproduct of water disinfection process
	Total Haloacetic acids	ppb	RAA: 51	28 - 114	60	2003	NA	byproduct of water disinfection process
	Total Organic Carbon (TOC)	ppm	4.2	2.4 to 4.2 RAA: ratio 1.36	TT	2003	NA	naturally present in the environment
	Chlorine Dioxide	ppb	100	<100 to 100	800	2003	800	byproduct of water disinfection process
	Chloramine Residual	ppm	RAA: 2.3	1.9 to 2.9	MRDL= 4	2003	MRDLG = 4	water additive used to control microbes
	Chlorite	ppm	0.86	<0.05 - 0.86	1.0	2003	0.8	byproduct of water disinfection process
UNREGULATED								
	Sodium	ppm	18	18	none	2003	none	naturally occurring and/or byproduct of treatment
	Giardia in River Water	per liter	0	0	none	2003	none	human and animal sources
	Crpytosporidium in River Water	per liter	0.1	0 to 0.1	none	2003	none	human and animal sources

Abbreviations

NTU = Nephelometric Turbidity Units **PCU** = platinum cobalt units **ppm** = parts per million (mg/l) **ppb** = parts per billion (ug/l)
umhos/cm = micromohs/centimeter **pCi/l** = picocuries per liter **C** = centigrade **RAA** = running annual average

Definitions

Maximum Contaminant Level (**MCL**): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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

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

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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 contamination.

General Interest - Table Two

Parameter	CPW Water Average	Highest Level Allowed by EPA Regulation- MCL
Alkalinity, ppm	30	No Standard
Chloride, ppm	18	250
Color, PCU	5	15
Conductivity, umhos/cm	200	No Standard
Hardness, ppm	68	No Standard
Iron, ppm	<0.10	1.3
Manganese, ppm	<0.05	0.05
Ortho-phosphate, ppm	1.3	No Standard
Silica, ppm	7.4	No Standard
Temperature, C	20	No Standard
Total Dissolved Solids (TDS), ppm	120	500