

2009

WATER QUALITY

report

ABOUT THIS REPORT

Each year, the Cape Fear Public Utility Authority will prepare a Drinking Water Quality Report for its customers as mandated by Federal law. This report provides important details about the quality of the drinking water we provide to our community.

NO VIOLATIONS

We are pleased to report that during 2009, or during any compliance period ending in 2009 there were NO violations of drinking water standards.

EN ESPANOL

Este informe contiene informacion muy importante. Traduzcalo o hable con un amigo quien lo entienda bien.



From the Desk of the CEO:

July, 2010 marks the second anniversary of the Cape Fear Public Utility Authority. As we reflect upon these first two years, we are reminded of many triumphs that have been experienced by this organization to include the successful consolidation and operation of a regional utility system, and significant progress on various projects and initiatives of particular value to our customers and the vitality of this region.

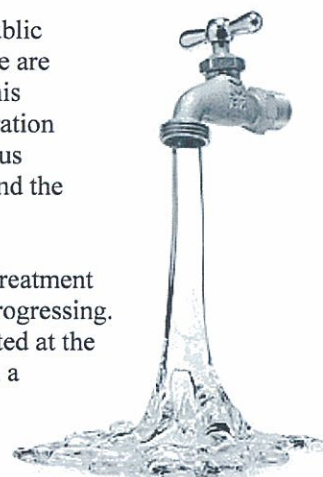
Construction to expand the capacity of the Sweeney Water Treatment Facility to serve current and future drinking water needs is progressing. Award winning expansions and improvements were completed at the Northside Wastewater Treatment Facility. A critical repair in a component for the transport of raw water from the Kings Bluff area to our treatment facility was identified and completed, and Cape Fear Public Utility Authority customers in the northern portion of New Hanover County now enjoy improved water quality via treatment from a new, state of the art nano-filtration facility.

Facility expansions and program enhancements like these will assist us in providing our customers with the highest quality service. Cape Fear Public Utility Authority continues our commitment to operate on three guiding principles: **STEWARDSHIP** to the environment and community, **SUSTAINABILITY** of our infrastructure and operations, and the provision of a high level of **SERVICE** at the lowest practicable cost for our customers. These principles are considered when making decisions that pertain to the treatment, maintenance and growth of our utility system, and our actions have and will continue to reflect our commitment to these principles and this region.

As a result of the continued hard work and dedication of staff, I am pleased to provide you with this year's Consumer Confidence Report. This report is a comprehensive review of your drinking water quality for the 2009 calendar year. This report includes important information about the origins and analysis of your water, and how it compares to standards set by the regulatory agencies. Additional information is also provided in this report regarding Community Compliance and Water Conservation outreach programs that may be of interest to your household or associated organizations.

Best Regards,

Matthew W. Jordan, P.E.
Chief Executive Officer
Cape Fear Public Utility Authority



"This report is a comprehensive review of your drinking water quality for the 2009 calendar year."

What's Your Water Footprint?

Definition: The **water footprint** of a person, company or nation is defined as the total volume of fresh-water that is used to produce the commodities, goods and services consumed by the person, country or nation.

Your **water footprint** is the total amount of water you use, not only the [direct] water used in your home (i.e. drinking, washing, flushing toilets, watering lawns, etc.), but also the [indirect] water used to produce the food you eat and the products you buy and use. Indirect water use includes other factors such as irrigating crops and watering livestock, water utilized to cool power plants that provide electricity, and water saved when you recycle. You may not drink, feel or see this "virtual" water, but it makes up the great majority of your water footprint.

The average person uses approximately 100 gallons* of water per day. Include the virtual water and that number can jump to over 1,700 gallons used each day! Look at these examples of virtual water use and think about the actual amount of water you use daily.

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- 1 cotton t-shirt = **713** gallons
 - 1 glass of milk = **53** gallons
 - 1 apple = **18** gallons
 - 1 cup of coffee = **37** gallons
 - 2 liter bottle of Coca Cola = **132** gallons
 - 1 pound of chicken = **467** gallons
 - 1 pair of leather shoes = **2,113** gallons
 - 1 egg = **18** gallons
 - 1 microchip = **8** gallons
 - 1 orange = **13** gallons
 - 1 potato = **7** gallons
 - 1 sheet of paper = **2.6** gallons
 - 1 pound of beef = **1,858** gallons
 - 1 cup of tea = **9** gallons
 - 1 slice of bread = **10** gallons
 - 16 oz. glass of [tap] water = **.125** gallons
 - 16 oz. bottled water = **1.85** gallons
 - 1 hamburger = **634** gallons
 - 1 bowl of salad = **31** gallons

Measure your water footprint by using the H₂O calculator at www.h2oconserve.org. You can also use your iPhone to calculate how much water is imbedded in your daily activities. Go to www.waterprint.net to download iPhone application. Read more about virtual water at www.waterfootprint.org.

* average for non-conserving individual



Wipes Clog Pipes

Disposable doesn't always mean flushable. Many cleaning products and wipes are labeled "flushable", "disposable" and even "safe for sewer and septic systems". The truth is, **wipes clog pipes**. They often don't dissolve or break down after being flushed because most wipes are made of woven fibers that do not easily break apart – unlike toilet paper, which is non-woven and disperses quickly. The wipes can also get wrapped around tree roots invading the sewer system and even clog machinery in a wastewater treatment plant.

Utility crews are regularly unclogging mounds of disposable paper towels, "flushable" wipes and other products that clog baskets, screens and pumps in the sewer system. The picture below is one of the collection baskets in CFPUA's wastewater system that has been clogged with wipes and other "flushable" products. These products are often the cause of sewer system overflows (SSO) and, as a result, can cause untreated sewage to back up into your home or business. Sewer system overflows can be harmful to the environment and costly to both the homeowner and the Cape Fear Public Utility Authority.

The toilet is not a trashcan. You can help prevent back-ups by keeping wipes and other products out of the sewer system. **Only toilet paper and human waste should be flushed down the toilet.** For more information contact CFPUA's Community Compliance Office at (910) 332-6558.





Fats, oils, and grease, also known as **FOG**, causes sewer blockages, leading to spills and overflows that are hazardous to our health and environment. These spills can result in damage to homes; polluted waterways & groundwater sources; and harm to fish and wildlife.

Sanitary sewers are designed and installed with sufficient diameter to carry the normal waste discharges from a residence or business. When FOG is discharged to the sewer system, it cools and accumulates on the sidewalls of the sewer pipes. Over time, this accumulation of fats, oils and grease congeals to the inside of the sewer collection system. This accumulation in the sewer restricts the flow, requires more routine maintenance, and causes blockages in the sewer system. These blockages may result in overflowing manholes or residential and commercial sewer backups.

FOG includes animal fats, vegetable fats, and oils used to cook and prepare food. FOG comes from meat, fats, lard, oil, shortening, butter, food scraps, sauces, and dairy products, just to name a few. When washed down the drain, FOG sticks to the inside of sewer pipes and over time it can build up, block entire pipes, and lead to serious problems. Directly pouring FOG down the drain after cooking is not the only way it gets into the sewer system; it drips off scraps that make their way into the sink and can come off dishes that are being rinsed before going into the dishwasher. Scraps ground up by garbage disposals do not keep FOG out of the pipes either; they're just shred into smaller pieces. Using detergents, including those that claim to dissolve grease, or bleach may appear to help, but this is not the case. It is only a temporary solution. FOG will soon return to its thick, solid state - the cleaners just send the FOG further down the sewage line.

"When FOG is discharged to the sewer system, it cools and accumulates on the sidewalls of the sewer pipes."

FOG build-up is the number one cause of public and private sewage spills. Luckily, these situations are entirely preventable. With your help, we can reduce the frequency of sewer system overflows (SSO) and keep FOG out of our sewers.

Keep our sewers "fat-free"...

- Never pour FOG into the sink or toilet
- Scrape grease and food scraps from trays, pots, pans, plates, utensils, and grills/cooking surfaces into a can, Fat Trapper™ or the trash for disposal.
- Before washing your pots and pans, use a paper towel or scraper to remove FOG residue.
- Make sure your kitchen sink has a strainer to catch food scraps and other solids, then empty it into the trash.



If you have any questions or would like to receive a free Fat Trapper™ (while supplies last), call CFPUA's Community Compliance office at (910) 332-6558.

Sewer Blockage Formation



The start of a blocked pipe begins when grease and solids collect on the top and sides of the pipe interior.



The build-up increases over time when grease and other debris are washed down the drain.



Excessive accumulation will restrict the flow of wastewater and can result in a sanitary sewer overflow.

What the EPA wants you to know...

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some natural substances. The presence of these substances does not necessarily indicate that water poses a health risk.

Some people may be more vulnerable to substances 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 microbiological substances are available from the Safe Drinking Water Hotline.

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 dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals

or from human activity. Substances that may be present in source water include **microbial substances**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; **inorganic substances**, such as salts and metals, which can be naturally-occurring or 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 substances**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and **radioactive substances**, which can be naturally-occurring or be the result of oil production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain substances in water provided by public water systems. FDA regulations establish limits for substances in bottled water that must provide the same protection for public health.

Cryptosporidium

Our system monitored for Cryptosporidium and found no detected levels of 12 monthly samples in the source water and found no detects in a 12 month period of the finished water leaving the water treatment facility.

Cryptosporidium, or Crypto, is a microbial parasite which is found in surface water throughout the U.S. Although Crypto can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Our facility utilizes a multi-barrier approach for removal; **Ozone** is used as a pre-oxidant and disinfectant in both pre and intermediate treatment of our water prior to filtration. Monitoring of our source water indicates the presence of these organisms; however, current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infections include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks; however, immuno-compromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. *Cryptosporidium* must be ingested for it to cause disease, and it may be spread through means other than drinking water.

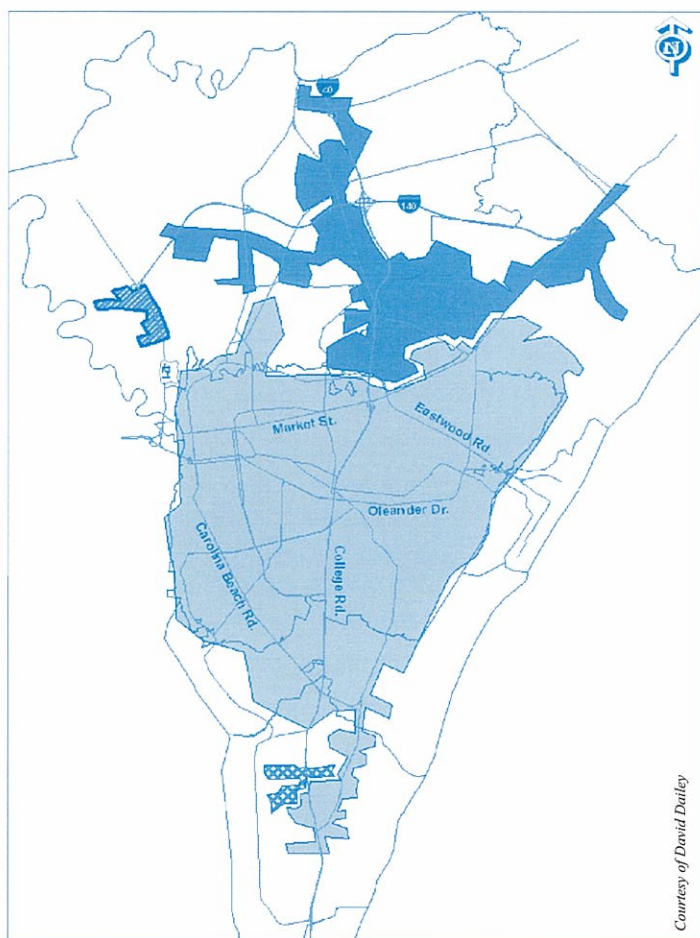
Water quality data tables of detected substances

We routinely monitor for over 150 substances in your drinking water according to Federal and State laws. The following tables list all the drinking water substances that CFPWA detected in the last round of sampling for the particular substance group. The presence of these substances does **not** necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in these tables is from testing done January 1 through December 31, 2009.** The EPA and the State of North Carolina requires us to monitor for certain substances less than once per year because concentrations of these substances are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. Unregulated substances are those for which the EPA has not established drinking water standards. The purpose of unregulated substance monitoring is to assist the EPA in determining the occurrence of unregulated substances in drinking water and whether future regulation is warranted.

CFPUA's Water Systems and Service Areas

When you turn on your tap, consider the source. The Cape Fear Public Utility Authority processes and distributes clean treated drinking water within New Hanover County through four systems. The **Sweeney Water Treatment Plant (PWS #04-65-010)** distributes water within the City of Wilmington city limits, the Ogden area, and parts of Monkey Junction. Water that is provided by the Sweeney Water Treatment Plant is surface water that is drawn from the Cape Fear River. The other three CFPWA water systems treat and supply groundwater to customers through a series of pumps and wells. The **232 System (PWS #04-65-232)** serves the northern part of New Hanover County including Porters Neck. Our **421 System (PWS #04-65-191)** serves approximately 80 customers on the Brunswick County side of the river along Hwy. 421 with groundwater obtained from two wells that pump water from surficial aquifers. The **Monterey Heights water system (PWS #04-65-137)** provides water service to a small southern area between Monkey Junction and Snow's Cut Bridge. The Monterey Heights system obtains groundwater pumped from the Castle Hayne Aquifer. A staff of certified treatment operators and a team of skilled maintenance technicians keep all the facilities fully operational 24/7.

Use the map below to determine your service area and refer to the corresponding table for the results of your water quality.



Find your service area...

- ◆ Look at the map to the left and locate your address.
- ◆ Use the legend below to determine what water system you're connected to.
 - PWS #04-65-010**
 - PWS #04-65-232**
 - PWS #04-65-191**
 - PWS #04-65-137**
- ◆ Refer to the data tables on the following pages to review the test results for your water system.

If you're unsure what water system services your area, if you have questions about the data tables or test results, or just have a general inquiry, contact CFPWA's Water Treatment Division **332-6739** for assistance.

Only Tap Water
Delivers®

 American Water Works Association

DEFINITIONS

AL/Action Level = The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. The action levels are reported at the 90th percentile for homes at greatest risk. **Average** = Approximate or summary concentration, determined by dividing the total of all results by the number of analysis. **MCL** (Maximum Contaminant Level)** = The highest level of a contaminant that is allowed in drinking water based on potential health effects. **MCLG (Maximum Contaminant Level Goal)** = The level of a contaminant in drinking water below which there is no known or expected risk to health. **MRDLG (Maximum Residual Disinfection 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. **MRDL (Maximum Residual Disinfection Level)** = the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants. **MRDLG (Maximum Residual Disinfection 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. **N/A** = Not applicable. **ND (Non-Detects)** = Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used. **NTU (Nephelometric Turbidity Unit)** = A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. **pCi/L (Picocuries per liter)** = measures radioactivity in water. **PPM (parts per million)** or **Milligrams per liter (mg/L)** = One part per million corresponds to one minute in two years or a single penny in \$10,000. **PPB (parts per billion)** or **Micrograms per liter (ug/L)** = One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000. **Range** = These are the lowest to the highest levels detected. **TT (Treatment Technique)** = A required process intended to reduce the level of contaminant in drinking water. **Turbidity MCL** = Less than 0.3 NTU's in 95% of all samples collected. ****MCL's** are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

2009 ANNUAL WATER QUALITY REPORT

SWEENEY WATER PLANT (SURFACE WATER SUPPLY) – PWS ID #04-65-010

Service to City of Wilmington, Ogden, Monkey Junction

MICROBIOLOGICAL SUBSTANCES					
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source
Total Coliform Bacteria (presence or absence)	NO	0.6%	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	NO	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste

TURBIDITY * - Systems with population ≥ 10,000					
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source
Turbidity (NTU)	NO	0.207	N/A	TT = 1 NTU Max	Soil runoff
		100%	N/A	TT = percentage of samples ≤ 0.3 NTU	

* Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU

INORGANIC SUBSTANCES								
Substance (units)	Sample Date	MCL Violation	Your Water	Range		MCLG	MCL	Likely Source
				Low	High			
Fluoride (ppm) Sweeney WTP Surface water source	11/18/09	NO	0.75	N/A	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories
Fluoride (ppm) Hillside Well Groundwater source	2/11/09	NO	0.10	N/A	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories

UNREGULATED INORGANIC SUBSTANCES					
Substance (units)	Sample Date	Your Water	Range		Secondary MCL
			Low	High	
Sulfate (ppm)	11/18/09	38.0	N/A	N/A	250

UNREGULATED VOC SUBSTANCES				
Substance (units)	Sample Date	Your Water	Range	
			Low	High
Chloroform (ppb)	7/13/09	28.0	N/A	N/A
Bromodichloromethane (ppb)	7/13/09	14.0		
Dibromochloromethane (ppb)	7/13/09	4.5		

LEAD AND COPPER						
Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source
Copper (ppm) 90 th percentile	June/Sept 2008	0.188	0 of 55 samples	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) 90 th percentile	June/Sept 2008	<3.0	1 of 55 samples	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits

"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. The Cape Fear Public Utility Authority 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>."

RADIOACTIVE SUBSTANCES						
Substance (units)	Sample Date	MCL Violation	Your Water	MCLG	MCL	Likely Source
Combined Radium (pCi/L)						
SWTP - Surface water source	Quarterly 2005	NO	1.06	0	5	Erosion of natural deposits
Hillside Well - Groundwater source	Quarterly 2005	NO	0.53	0	5	
Lords Creek - Groundwater source	Quarterly 2005	NO	0.56	0	5	

DISINFECTION BYPRODUCT PRECURSORS								
Our water system used [Step 1] as the method to comply with the disinfectants/disinfectant byproducts treatment technique requirements								
Substance (units)	Sample Date	MCL/TT Violation	Your Water	Range		MCL G	MCL	Likely Source
				Low	High			
Total Organic Carbon (ppm) (TOC)-RAW	Weekly; Every Tuesday	NO	6.6	4.5	11.3	N/A	TT	Naturally present in the environment
Total Organic Carbon (ppm) (TOC)-TREATED	Weekly; Every Tuesday	NO	2.2	1.7	3.8	N/A	TT	Naturally present in the environment

Note: Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % removal, we are in violation of a Treatment Technique (TT). Minimum % removal achieved was 59%.

TOC Removal Requirements			
Source Water TOC (mg/L)	Source Water Alkalinity mg/L as CaCO ₃ (in percentages)		
	0-60	> 60 - 120	> 120
> 2.0 – 4.0	35.0	25.0	15.0
> 4.0 – 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

DISINFECTANTS AND DISINFECTION BYPRODUCTS							
Substance (units)	MCL/MRDL Violation	Your Water (AVG)	Range		MCLG	MCL	Likely Source
			Low	High			
TTHM (ppb) Total Trihalomethanes**	NO	51.6	8.0	120.7	N/A	80	By-product of drinking water disinfection
HAA5 (ppb) Total Haloacetic Acid	NO	25.4	3.4	62.3	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	NO	1.1	<0.1	1.9	MRDLG = 4	MRDL = 4	Water additive used to control microbes

**Compliance based on Running Annual Average of all distribution samples

WATER CHARACTERISTICS SUBSTANCES				
Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.				
Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
pH (s.u.) Sweeney WTP Surface water source	11/18/09	7.20	N/A	6.5 to 8.5
pH (s.u.) Hillside Well Groundwater source	2/11/09	7.90	N/A	6.5 to 8.5
pH (s.u.) Lords Creek Groundwater source	Jan-Dec. 2009	6.63	N/A	6.5 to 8.5
Sodium (ppm) Sweeney WTP Surface water source	11/18/09	26.00	N/A	N/A
Sodium (ppm) Hillside Well Groundwater source	2/11/09	7.80	N/A	N/A
Sodium (ppm) Lords Creek Groundwater source	9/8/08	19.00	N/A	N/A

421 WATER SYSTEM - PWS ID #04-65-191 (GROUNDWATER)

MICROBIOLOGICAL SUBSTANCES					
Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source
Total Coliform Bacteria (presence or absence)	NO	24 tested / 0 positive	0	More than 1 sample a month is positive	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N/A	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste

UNREGULATED INORGANIC SUBSTANCES				
Substance (units)	Sample Date	Your Water	Range	
			Low	High
Sulfate (ppm)	Feb. 2005	16	N/A	N/A

DISINFECTANTS AND DISINFECTION BYPRODUCTS								
Substance (units)	Sample Date	MCL/MRDL Violation YES/NO	Your Water (AVG)	Range		MCLG	MCL	Likely Source
				Low	High			
TTHM (ppb) Total Trihalomethanes	July 2009	NO	18	N/A	N/A	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) Total Haloacetic Acid	July 2009	NO	4	N/A	N/A	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	Jan-Dec. 2009	NO	1.3	0.6	1.8	MRDLG = 4	MRDL = 4	Water additive used to control microbes

WATER CHARACTERISTICS SUBSTANCES				
Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.				
Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Manganese (ppm)	Feb. 2005	0.029	N/A	0.05
pH	Feb. 2005	7.6	N/A	6.5 to 8.5
Sodium (ppm)	Feb. 2005	29	N/A	N/A

232 WATER SYSTEM (GROUNDWATER SUPPLY) - PWS ID #04-65-232

Service to Northern New Hanover County, Ogden, Porters Neck

MICROBIOLOGICAL SUBSTANCES

Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source
Total Coliform Bacteria (presence or absence)	NO	483 tested / 2 positive	0	5% of monthly samples are positive	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	N/A	0	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste

INORGANIC SUBSTANCES

Substance (units)	Sample Date	MCL Violation YES/NO	Your Water	Range		MCLG	MCL	Likely Source
				Low	High			
Cyanide (ppb)	Jun. 2004 - Dec. 2009	NO	130	ND	130	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	Jun. 2004 - Dec. 2009	NO	0.17	ND	0.17	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories
Chromium (ppb)	Jun. 2004 - Dec. 2009	NO	53	ND	53	100	100	Discharge from steel and pulp mills; erosion of natural deposits

UNREGULATED VOC SUBSTANCES

Substance (units)	Sample Date	Your Water	Range	
			Low	High
Bromodichloromethane (ppb)	Oct. 2007 - Aug. 2009	9	ND	9
Chlorodibromomethane (ppb)	Oct. 2007 - Aug. 2009	4	ND	4
Chloroform (ppb)	Oct. 2007 - Aug. 2009	12	ND	12

UNREGULATED INORGANIC SUBSTANCES

Substance (units)	Sample Date	Your Water	Range	
			Low	High
Sulfate (ppm)	Jun. 2004 - Dec. 2009	30	ND	30

LEAD AND COPPER

Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source
Copper (ppm) 90 th percentile	Sept. 2009	1.09	2 of 30 samples	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) 90 th percentile	Sept. 2009	5	0 of 30 samples	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits

"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. The Cape Fear Public Utility Authority 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>."

RADIOLOGICAL SUBSTANCES *Note: The MCL for beta particles is 4 mrem/year. EPA considers 50pCi/L to be the level of concern for beta particles.

Substance (units)	Sample Date	MCL Violation YES/NO	Your Water	MCLG	MCL	Likely Source
Gross Beta (pCi/L)	June 2006 - Sept. 2009	NO	8	0	*50	Decay of natural and man-made deposits
Combined Uranium (pCi/L)	June 2006 - Sept. 2009	NO	1	0	20.1	Erosion of natural deposits
Uranium (pCi/L)	June 2006 - Sept. 2009	NO	0.4	0	20.1	Erosion of natural deposits

DISINFECTANTS AND DISINFECTION BYPRODUCTS

Substance (units)	Sample Date	MCL/MRDL Violation	Your Water (AVG)	Range		MCLG	MCL	Likely Source
				Low	High			
TTHM (ppb) Total Trihalomethanes	Jan. - Dec. 2009	NO	57	ND	106	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) Total Haloacetic Acid	Jan.- Dec. 2009	NO	13	ND	126	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	Jan.- Dec. 2009	NO	0.76	< 0.10	3.6	MRDLG = 4	MRDL = 4	Water additive used to control microbes

WATER CHARACTERISTICS SUBSTANCES

Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.

Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Iron (ppm)	Jun. 2004 - Dec. 2009	0.5	ND / 0.5	0.3
Manganese (ppm)	Jun. 2004 - Dec. 2009	0.1	ND / 0.1	0.05
pH	Jun. 2004 - Dec. 2009	8.6	6.8 / 8.6	6.5 to 8.5
Sodium (ppm)	Jun. 2004 - Dec. 2009	69	12 / 69	N/A

NITRATE / NITRITE SUBSTANCES

Substance (units)	Sample Date	MCL/MRDL Violation	Your Water (AVG)	Range		MCLG	MCL	Likely Source
				Low	High			
Nitrate - as Nitrogen (ppm)	Jun.-Dec. 2009	NO	1.37	ND	1.37	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

MONTEREY HEIGHTS WATER SYSTEM - PWS ID #04-65-137 (GROUNDWATER)**MICROBIOLOGICAL SUBSTANCES**

Substance (units)	MCL Violation	Your Water	MCLG	MCL exceeded if:	Likely Source
Total Coliform Bacteria (presence or absence)	NO	87 tested / 1 positive	0	More than 1 sample a month is positive	Naturally present in the environment
Fecal Coliform or E. coli (presence or absence)	NO	1	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive)	Human and animal fecal waste

INORGANIC SUBSTANCES

Substance (units)	Sample Date	MCL Violation YES/NO	Your Water	Range		MCLG	MCL	Likely Source
				Low	High			
Fluoride (ppm)	March 2004 & Feb. 2008	NO	0.14	0.10	0.14	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizers and aluminum factories

LEAD AND COPPER

Substance (units)	Sample Date	Your Water	# of Sites Found Above the AL	MCLG	MCL	Likely Source
Copper (ppm) 90 th percentile	August 2007	0.305	0	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) 90 th percentile	August 2007	5	0	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits

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. The Cape Fear Public Utility Authority 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>.

DISINFECTANTS AND DISINFECTION BYPRODUCTS

Substance (units)	Sample Date	MCL/MRDL Violation	Your Water (AVG)	Range		MCLG	MCL	Likely Source
				Low	High			
TTHM (ppb) Total Trihalomethanes	Aug. 2009	NO	45	37	52	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) Total Haloacetic Acid	Aug. 2009	NO	25	18	35	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	Jan. - Dec. 2009	NO	0.71	0.10	1.66	MRDLG = 4	MRDL = 4	Water additive used to control microbes

WATER CHARACTERISTICS SUBSTANCES

Secondary Substances, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic substances normally do not have any health effects and normally do not affect the safety of your water.

Substance (units)	Sample Date	Your Water	Range Low/High	Secondary MCL
Iron (ppm)	Mar. 2004 & Feb. 2008	0.157	ND / 0.157	0.3
Manganese (ppm)	Mar. 2004 & Feb. 2008	0.020	0.012 / 0.030	0.05
pH	Mar. 2004 & Feb. 2008	7.9	7.7 / 7.9	6.5 to 8.5
Sodium (ppm)	Mar. 2004 & Feb. 2008	17	5 / 17	N/A

NITRATE / NITRITE SUBSTANCES

Substance (units)	Sample Date	MCL/MRDL Violation	Your Water (AVG)	Range		MCLG	MCL	Likely Source
				Low	High			
Nitrate - as Nitrogen (ppm)	May 2009	NO	1.84	1.09	1.84	10	10	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

Source Water Assessment

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contamination Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for CFPWA was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e. characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the adjacent table. The complete SWAP Assessment report for the Cape Fear Public Utility Authority may be viewed at: <http://www.deh.enr.state.nc.us/pws/swap>.

Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this water quality report was prepared. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-715-2633.

Keeping in Touch

If you have any questions or concerns about this report or the quality of your drinking water, please contact CFPWA's Water Treatment Division at (910) 332-6739. We want our valued customers to be informed about their water utility. If you want to learn more, consider attending an Authority Board Meeting. Information can be found by visiting our web-site.

Pass it on...

Businesses and landlords are requested to pass this information on to their tenants and customers. Please post this in a visible location. Additional copies of this report can be obtained by calling (910) 332-6739 or (910) 332-6550 during regular business hours. This report is also posted on our web-site: www.cfpwa.org. Thank you for helping us provide this information to all those who use and depend on our water.



Learn more about your utility systems. The CFPWA Board meets on the 2nd Wednesday of each month at 9:00 a.m. in Room 601 of the New Hanover County Government Center.

Board Members

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Jim Hunter, Vice Chair
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Kathryn Johnston, Secretary
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Commissioner Bill Caster
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Source Name	System	Susceptibility Rating*	SWAP Report Date
Cape Fear River (King's Bluff)	04-65-010	Moderate	Feb. 2010
Lower C.F. W&S Authority	04-65-010	Moderate	Feb. 2010
Lords Creek	04-65-010	Lower	Feb. 2010
Hillside	04-65-010	Moderate	Feb. 2010
Monterey Heights Well #1	04-65-137	Moderate	March 2007
Monterey Heights Well #2	04-65-137	Moderate	March 2007
Monterey Heights Well #3	04-65-137	Moderate	March 2007
NHC 421 Well #3	04-65-191	Higher	March 2007
NHC 421 Well #4	04-65-191	Higher	March 2007
Well #1 Quail Woods Rd.	04-65-232	Moderate	March 2007
Well #2 Old Quail Woods	04-65-232	Moderate	March 2007
Well #3 Bay Blossom	04-65-232	Moderate	March 2007
Well #4 White Rd.	04-65-232	Moderate	March 2007
Well #5 Shenandoah Rd.	04-65-232	Moderate	March 2007
Well #6 North Chase	04-65-232	Moderate	March 2007
Well #7 North Chase	04-65-232	Moderate	March 2007
Well #8 Ogden Park	04-65-232	Moderate	March 2007
Well #9 Bountiful Lane	04-65-232	Moderate	March 2007
Well #10 Harvest Rd.	04-65-232	Moderate	March 2007
Well #11 Stoney Rd.	04-65-232	Moderate	March 2007
Well #12 Berry St.	04-65-232	Moderate	March 2007
Well #13 Prince George	04-65-232	Moderate	March 2007
Well #15 Elkmont	04-65-232	Moderate	March 2007
Well #16 Old Oak Rd.	04-65-232	Higher	March 2007
Well #17 Raintree/Brick St.	04-65-232	Higher	March 2007
Well #18 Beawood/Brick St.	04-65-232	Moderate	March 2007
Well #19 Marsh Oaks/Marsh	04-65-232	Moderate	March 2007
Well #20 Old Marsh Oaks #2	04-65-232	Moderate	March 2007
+Well #24 - Old Kings Grant Well #1	04-65-232	Moderate	March 2007
+Well #25 - Old Kings Grant Well #2	04-65-232	Moderate	March 2007
+Well #26 - Old Kings Grant Well #3	04-65-232	Higher	March 2007
+Well #27 - Old Kings Grant Well #4	04-65-232	Lower	March 2007

Susceptibility of Sources to Potential Sources (PCSs)

** It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCS's in the assessment area.*

+ SWAP information for Wells #24-#27 can be found in the old Kings Grant report PWS ID #04-65-129

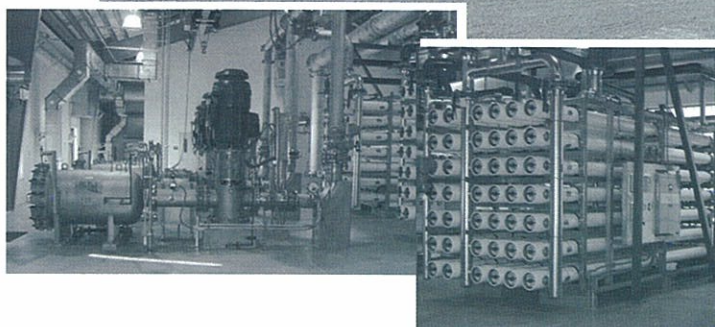
New Treatment Plant Improves Water Quality

CFPUA's new Nanofiltration membrane treatment plant was built to provide high-quality water that meets current and future drinking water standards. State-of-the-art membrane technology allows for treatment of two different water sources: from the shallow Castle Hayne Aquifer and from the deeper Upper PeeDee Aquifer. Treated water from these two sources is blended before leaving the plant and entering the water distribution system. Overall water quality provided to customers has improved as indicated in the table below:

	Water Hardness	Iron Content	pH
Currently	Avg. 45 ppm	< 0.1 ppm	7.3
Before Plant Construction	Avg. 250 ppm	Avg. 0.1-4.0 ppm	6.8 - 8.2

As indicated in the above chart, the treated water has less hardness which eliminates the need for water softening. Most customers can now discontinue the use of home water softening. Membrane technology is recognized as one of the best technologies for removing organic material in the water and will assist in reducing the formation of disinfection by-products that form when chlorine reacts with naturally occurring organic materials in water. Other additional water quality improvements include reduction in iron and manganese concentrations and occurrence of discolored water. The addition of fluoride has been delayed and we expect now to be providing fluoride to the treated water from the plant by June of this year.

CFPUA is proud of this new plant and the improved water quality as part of our continued mission of providing Stewardship, Sustainability, and Service to our customers.



Help Keep Your [and Your Neighbor's] Drinking Water Safe

Everyone should have a common interest in protecting our drinking water from contamination through cross-connections. Be involved in keeping your water safe.

Every home has potential hazards that threaten to contaminate your drinking water. The most common way contaminants enter the drinking water system is through cross connections in our piping systems. Back-flow from a cross connection can occur when the pressure in the water main drops below the line pressure in your home causing a "soda straw" effect called back-siphonage. This effect can draw water from garden hoses, washbasins, boilers, lawn sprinklers, swimming pools, etc., into your home's water supply. You may not even be aware that the water in your home has been contaminated or that someone has been made ill from drinking the water.

Irrigation systems and improper use of water hoses can also contaminate drinking water in the home and in other homes in the neighborhood. Sprinkler attachments, spray nozzles and other items attached to a hose connected to the potable water supply should be protected by the use of an approved hose connection vacuum breaker. These devices are designed for hose threaded outlets (hose bibs) found on the outside of most homes.

Backflow contamination can result in illness or even death.

It is easy to protect your water supply from these hazards. Be aware of potential hazards and install appropriate backflow preventers at water outlets. Backflow prevention devices are required on all irrigation systems connected to the CFPUA's water distribution system. The devices must be inspected and tested (by a certified backflow tester) upon installation and annually thereafter to insure continued backflow prevention. Contact the CFPUA Community Compliance office at [910-332-6558](tel:910-332-6558) to learn more about backflow protection requirements for irrigation systems and to obtain a list of local certified backflow testers.

"Every home has potential hazards that threaten to contaminate your drinking water."





Questions? Information?

CFPUA

235 Government Center Dr.
Wilmington, NC 28403
(910) 332-6550
www.cfpua.org

CFPUA Water

Conservation Hotline

(910) 332-6566
conserveh2o@cfpua.org

EPA

Safe Drinking Water Hotline
1-800-426-4791



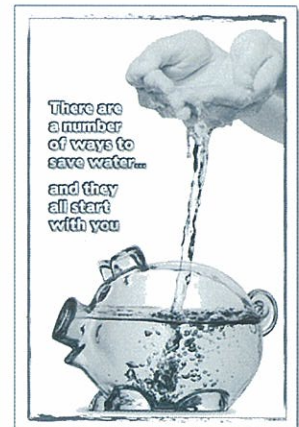
Cape Fear Public Utility Authority • 235 Government Center Drive • Wilmington, NC 28403

Helpful CFPUA phone numbers...

Water Treatment (Sweeney Water Plant).....	332-6739
Water Conservation Hotline/Report Water Waste.....	332-6566
Customer Service - Billing Information, New Connections, System Shutoff.....	332-6550
Report broken water lines, mains, sewer overflow (24-hour).....	332-6565
Human Resources.....	332-6570
Board Information.....	332-6543
Public Relations.....	332-6704
Community Compliance.....	332-6558

Outdoor water-saving tips:

- ◆ Make sure your hose is equipped with a nozzle.
- ◆ Check outside faucets, hoses, and sprinklers for leaks.
- ◆ Don't water on windy days or within two days of rain.
- ◆ Established lawns require about one-inch of water per week... be sure to take rainfall into account and don't overwater.
- ◆ Water your lawn early in the morning or late in the evening to minimize evaporation.
- ◆ Use a broom instead of the hose to clean driveways and sidewalks.
- ◆ Add a layer of mulch around plant beds and use native plants.



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