

# ***West Carteret Water Corporation's 2012 Water Quality Report***

***This report is available by request or on-line at [www.wcwc.biz](http://www.wcwc.biz).***

For Public Water System ID No. 04-16-040

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## **FACEBOOK & WEBPAGE**

Do you use FACEBOOK? Well, LIKE us so you can receive updated information regarding closings, meetings, and other key dates. Also, please checkout our revised WEBSITE at [www.wcwc.biz](http://www.wcwc.biz) for important messages, water rates, scheduled outages, emergency repair information, office closings, and forms.

## **ON-LINE BILL AVAILABLE!**

On-line bill pay is available by visiting our website at [www.wcwc.biz](http://www.wcwc.biz). After contacting the office for your password, you can log into I-CONNECT, create a new password, and pay your bill on-line 24-hours a day! Questions? Our staff is happy to help!



## **2012 Water Quality Report**

### **Why is your water company providing this information?**

Several years ago, the EPA decided that water companies should be required to provide their customers with a report about their operations and testing results during the preceding year. At WCWC, we have always made this information available and look forward to keeping you informed by mailing this Water Quality Report each year. It includes information about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Sections of it may look the same from year to year because there are topics that must be included. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

In addition to water quality and treatment information, we attempt to provide you with billing information, such as rate and procedure changes, and conservation tips.

If you have any questions about this report, concerns about your water, or suggestions, please contact the General Manager/Executive Director, Lisa Smith-Perri, or any Customer Service Representative at (252) 393-1515. Also, if you ever desire an opportunity to speak with the Board, you may do so by calling the office to inquire about meetings, which are generally held the third Tuesday of each month. Tours of our plant facilities can also be made by appointment.

## WATER RATES

West Carteret Water Corporation has an ascending rate to promote conservation. Water rates are posted on our website or we can mail you a rate schedule. You can expect a 2% increase in water rates in October or November 2013. As notified in previous mailings, your board decided a few years ago to annually raise rates in hopes of avoiding larger, one-time increases. However, it will be evaluated each year based on budgetary needs.

## METER CHANGE-OUT CONTINUES

Your board voted to slow the meter change-out process in 2009 as part of cutting expenditures. Also, new meters that were not utilized by homeowners were installed where customers would benefit from an electronic meter.

We have now resumed meter change-out and plan to finish Cedar Point this year and will start in Cape Carteret. Once the new meter is installed, your usage will be recorded nightly in the office via cellular transfer. If you have high usage, we can provide you with details and graphic reports to help resolve billing questions.

**IMPORTANT: Please note that if you do not have a personal cut off valve located on the house side of the water meter, you must have one installed, regardless of where you live BEFORE your meter is changed.**

## DEADLINE HAS PASSED! CROSS CONNECTION CONTROL

Additional cross connection control measures must be taken under the following conditions: Homeowners with pools, irrigation systems, docks and other moderate to severe hazards hooked to a potable supply. The deadline to install a Reduced Pressure Zone (RPZ) backflow prevention device was December 31, 2011, which was extended 18 months. Therefore, we have begun to identify accounts that require this device, contacting each to ensure that it is properly installed adjacent to the water meter. Contact our office for a list of approved, certified installers. Hookup guides and additional information are available in the office or on-line at [www.wcwc.biz](http://www.wcwc.biz).

## HIGH WATER USAGE

ARE YOU AWARE THAT THE RESIDENTIAL WATER RATE DRASTICALLY INCREASES ONCE YOU USE 40,000 GALLONS AND IT INCREASES AGAIN WHEN YOUR METER REGISTERS OVER 100,000 GALLONS OF MONTHLY USAGE?

TREATED WATER IS EXPENSIVE WHEN NOT USED WISELY! IF YOU MUST USE POTABLE WATER FOR WASHING YOUR CAR, WATERING PLANTS AND OTHER OUTDOOR USES, TRACK HOW MUCH IS REGISTERED ON YOUR METER TO AVOID ANY SURPRISES WHEN YOUR BILL ARRIVES.

AS A REMINDER, ALTHOUGH WE HAVE A LEAK ADJUSTMENT POLICY, IT DOES NOT ALLOW FOR ADJUSTMENTS WHERE THE LEAK WAS AVOIDABLE, NOT REPAIRED IN A TIMELY MANNER, OR FOR OUTDOOR APPURTENANCES, SUCH AS DAMAGED WATER HOSES, LEAKING EXTERIOR FITTINGS, AND SO FORTH.

## CHECK FOR LEAKS OR HIGH USAGE

1. Locate your water meter and remove the lid. (Call the office if you have difficulty doing so.)
2. There are both analog and digital meters installed throughout the system. For analog (dial-faced meters), check the leak detection triangle. If it is turning, water is going through the meter at that time. For digital meters, it will indicate rate of flow to let you know water is going through the meter.
3. Write down a reading for either type of meter. Repeat after a few hours of no water use.
4. If there is a difference, subtract the readings to determine the amount of usage.
5. Check all toilets, faucets, pipes and connections. You can isolate the leak location by turning the water off near the home and then repeating steps 1 & 2. If the meter stops moving, then the leak is in the home. If not, it is between the meter and the cut-off valve to the home.
6. Once leaks are located, have them repaired quickly.

Need help? Give us a call and we will be happy to assist you with determining your usage!

## Facts about your water supply

Currently, the water supply comes from five (5) 10-inch wells located in the Croatan National Forest and one 6-inch. The average depth of the wells is 280 feet. The water is pumped from the Castle Hayne Aquifer. The wells are equipped with either 40-hp or 50-hp pumps, which are capable of producing approximately 600 gallons per minute (gpm), with the exception of Well No. 2 that now pumps approximately 375 gpm. The raw water is pumped to the treatment plant located at 4104 Highway 24 in the community of Ocean. The water first runs through an aerator before being stored in two (2) 50,000-gallon ground storage tanks located adjacent to the plant.

In September 2008, the treatment process added **iron removal**, which is used as needed, before being **softened** by utilizing Cation Resin. This process reduces the hardness level to approximately 70-80 ppm (4 - 4.6 grains per gallon). After softening, the water continues through a train of **color (tannin) removal** vessels, which use Anion Resin. The water is then injected with **ortho-polyphosphate** as needed for corrosion control within the distribution system. Following this process, **chlorination** is next in the treatment train. The water is routed to a detention tank before being injected with **ammonia**. These last two components, chlorine and ammonia, are for disinfection purposes. This process is **chloramination**. The water is then stored in the elevated tanks or routed to the distribution system.

West Carteret Water Corporation's customer base consists of residential, commercial, and institutional members. **Distribution lines** are located from Gethsemane Memorial Park near Morehead City along the Highway 24 corridor to the White Oak River in Cedar Point. Currently, our northernmost distribution lines end at the Stella Bridge.

### ***Source Water Assessment Program (SWAP) Results***

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 Contaminant 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 West Carteret Water Corporation 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 for the March 2007 report are summarized in the table below:

#### **Susceptibility of Sources to Potential Contaminant Sources (PCSs)**

<b><i>Source Name</i></b>	<b><i>Susceptibility Rating</i></b>	<b><i>SWAP Report Date</i></b>
Well # 1	Lower	March 2007
Well #2	Lower	March 2007
Well #3	Lower	March 2007
Well #4	Lower	March 2007
Well #5	Under Construction as of last SWAP update	
Well #6	Lower	March 2007

*(Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on the web site may differ from the results that were available at the time this CCR was prepared)*

The complete SWAP Assessment report for WCWC may be viewed on the Web at: <http://swap.deh.enr.state.nc.us/swap> when it is not being updated by PWS. 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 e-mail request to [swap@ncmail.net](mailto:swap@ncmail.net). Please indicate our system name, PWSID (04-16-040), 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. It is important to understand that if a susceptibility rating of “higher” was given, that does not imply poor water quality, only the system's potential to become contaminated by PCS's in the assessment area.

## What EPA wants you to know!!!

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 Water Drinking Hotline (800-426-4791) as well.

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. Contaminants that may be present in source water include:

- ♻ Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ♻ Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil or gas production, mining, or farming.
- ♻ Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- ♻ Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum products, and can also come from gas stations, urban stormwater runoff, and septic systems.
- ♻ Radioactive contaminants can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

### Your water company strives to keep your water safe...

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table on the next page lists all the drinking water contaminants that we tested and any detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in the table in this report is from testing done January 1 through December 31, 2012. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants 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.

### Lead and Cooper

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. West Carteret Water Corporation 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>.

## TESTING NOTES...UNREGULATED CONTAMINANTS

In the tables on the next page, we have included detected and undetected contaminants in order to make you, the customer, aware of the extent of the testing that is performed. As a note, unregulated contaminants are included in this report as well. The company did not have any detects in this category. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of such contaminants in drinking water and whether future regulation is warranted. Unregulated contaminants are those for which EPA has not established drinking water standards. If you would like more information on unregulated chemicals, you may call the EPA Hot Line as noted above

### ABBREVIATIONS & DEFINITIONS

In the test result table located in this report, you will find many terms and abbreviations that might not be familiar to you. To help you better understand these terms, we've provided the following definitions:

**Not-Applicable (N/A)** – Information not applicable/not required for that particular water system or for that particular rule.

**Non-Detects (ND)** - Laboratory analysis indicates that the contaminant is not present at the level set for the particular methodology.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Maximum Contaminant Level Goal (MCLG)** - 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 Contaminant Level (MCL)** - Highest allowable contaminant of any substance as set by the USEPA and State Department of Health Services; MCLS are set as close to the MCLGs as feasible using the best available treatment technology.

**Maximum Residual Disinfection Level Goal** – The “Level” (MRDLG) 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.

**Maximum Residual Disinfection Level** – The “Highest Level” (MRDL) of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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

**Picocuries per liter (pCi/L)** - Picocuries per liter is a measure of radioactivity in water.

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

Water Characteristics Contaminants - February 2012 (Every 3 Years)				
Contaminant (units)	Sample Date	Your Water	Range Low High	Secondary MCL
Iron (ppm)	02/09/2012	ND	N/A	0.3
Manganese (ppm)	02/09/2012	ND	N/A	0.05
Nickel (ppm)	02/09/2012	ND	N/A	N/A
Sodium (ppm)	02/09/2012	125.65	N/A	N/A
pH	02/09/2012	7.4	N/A	6.5 to 8.5

Did you know that your water company has a full-time lab technician on staff? Lisa "G", as she is referred, is either in the field sampling or working in the lab daily! Our System Manager coordinates with both the lab tech and our flushing staff to bring you the best quality water possible. However, if you ever have concerns or questions about your water, do not hesitate to contact us. We will be happy to make an appointment to meet with you!

# Testing Results

**This company tests for many contaminants, both regulated and unregulated. The results of both are listed below. A "ND" refers to non-detects. The Maximum Contaminant Levels (MCL) 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-**

## Microbiological Contaminants-10 per month required (WCWC tests 12 sites) TESTING Fecal Coliform (E. coli) - Non-detect

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	Y	1	0	1 positive monthly sample	Naturally present in the environment

\* 1 positive sample on July 18, 2012

## Nitrate/Nitrite Contaminants-February 2012 (Yearly) TESTING (ND): Nitrate

## Inorganics Contaminants – February 2012 (Every 3 years)

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	02/09/12	N	0.17	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

ADDITIONAL TESTING (ND): Arsenic, Barium, Cadmium, Chromium, Cyanide, Manganese, Mercury, Nickel, Selenium, Antimony, Beryllium, Thallium, Iron, Sodium, Sulfate, pH.

## Synthetic Organic Chemical Contaminants including Pesticides and Herbicides – April and October 2011 (ND) (In 2009, WCWC received reduced sampling; Next retest 2014)

ADDITIONAL TESTING (ND): Alachlor, Atrazine, Benzo(a)pyrene (PAH), Carbofuran, Chlordane, Dalapon, Di-2(ethylhexyl)adipate, Di-2(ethylhexyl)phthalate, Dibromochloropropane, Dinoseb, Endrin, Ethylene Dibromide (EDB), Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Methoxychlor, Oxamyl [Vydate], PCBs [Polychlorinated biphenyls], Picloram, 2,4,5-TP (Silvex), Simazine, Toxaphene, 2,4-D (ppb), Pentachlorophenol (ppb), Gamma (BHC)

## Volatile Organic Chemical Contaminants - July 2012 (ND-Every 3 Years)

ADDITIONAL TESTING (ND): 1,2,4-Trichlorobenzene, c-1,2-Dichloroethylene, Xylenes, Dichloromethane, o-Dichlorobenzene, p-Dichlorobenzene, Vinyl Chloride, 1,1-Dichloroethylene, t-1,2-Dichloroethylene, 1,2-Dichloroethane, 1,1,1-Trichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, Trichloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Chlorobenzene, Benzene, Toluene, Ethylbenzene, Styrene, Tetrachloroethylene

## Lead and Copper Contaminants - 2011 (30 samples per year every 3 years; Next retest 2014)

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	June 2011	0.441	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90 <sup>th</sup> percentile)	June 2011	ND	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

## Radiological Contaminants - 2005 (Next retest 2016) allowed to do all testing at same time

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/l)	1 <sup>st</sup> Qtr	N	.78	0	15	Erosion of natural deposits
	2 <sup>nd</sup> Qtr	N	.94			
	3 <sup>rd</sup> Qtr	N	.86			
	4 <sup>th</sup> Qtr	N	.81			
Beta/photon emitters (pCi/l)	1 <sup>st</sup> Qtr	N	.69	0	50	Decay of natural and man-made deposits
	2 <sup>nd</sup> Qtr	N	.78			
	3 <sup>rd</sup> Qtr	N	.64			
	4 <sup>th</sup> Qtr	N	.84			

## Disinfection By-Product Contaminants – Stage I (September 2012)

Contaminant (units)	MCL/MRDL Violation Y/N	Your Water (AVG)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	N	30	30	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	30.2	30.2	N/A	60	By-product of drinking water disinfection
Chloramines (ppm) [Total]	N	3.19 (10 months/yr)	1.6 - 4.0	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm) [Free]	N	2.92 (2 months/yr)	1.3 - 4.0	MRDLG = 4	MRDL = 4	Water additive used to control microbes

## NEW TESTING STARTING DECEMBER 2013 – Quarterly Testing (March, June, September 2014)

### Disinfection By-Product Contaminants – Stage II

#### Just a little water chatter about hardness and fluoride...

**Hardness...** Total hardness is defined as the sum of the calcium and magnesium concentrations (or salts). Both of these are expressed as calcium carbonate in units of milligrams per liter. Calcium is the major component of hardness in water. It is present in many minerals, principally limestone and gypsum. There is no U.S. EPA drinking water MCL for hardness. Silica (SiO<sub>2</sub>) is found in crystalline (quartz, rock crystal amethyst and microcrystalline) formations. In the presence of Magnesium it can form a scale. There is no U.S. EPA drinking water MCL for Silica. Evidence of both Calcium and Silica may be observed as water dries on or near fixtures.

The average (untreated) concentration of calcium carbonate from the wells at West Carteret Water Corporation is approximately 250 mg/l. The water is softened to 50 – 60 mg/l on average before entering the distribution system. This is considered to be a moderately hard range of water. Softened water can be corrosive to certain types of plumbing. Therefore, the moderately hard range has been chosen to minimize problems from occurring in the distribution system and customer's plumbing. A further reduction of calcium carbonate can be managed by installing one of many varieties of water softeners that are available on the market today.

**Fluoride...** In February 2012, Fluoride was tested at entry point. The result was 0.17 mg/l of naturally occurring fluoride.