



# 2010 Water Quality Report

## Onslow Water and Sewer Authority

04-67-035

### Introduction

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We're pleased to present to you this year's Annual Water Quality Report. This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the effort we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information, because informed customers are our best allies. ONWASA would like you to know that we received two (2) violations this reporting year and are detailed in this report.

### What EPA Wants You to Know

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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).

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. ONWASA 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>

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 micro-biological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present include microbial contaminants, inorganic contaminants, pesticides and herbicides, organic chemicals and radioactive contaminants.

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

### When You Turn on Your Tap, Consider the Source

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Our source water is groundwater. ONWASA has 14 wells located throughout the county, which draw from the Black Creek Aquifer. The water provided by the treatment plants in Hubert and Dixon draw water from 20 wells in the Castle Hayne Aquifer. In 2010, ONWASA purchased approximately 4% of our water from Marine Corps Air Station New River.

Our Source Water Assessment Program (SWAP) was updated in 2009 and assigned a Susceptibility Rating of Higher, Moderate or Lower. Some wells have yet to be rated and are not included in the report. The Susceptibility Rating is the well's potential for contamination. Of the wells rated in the update 14 have a Lower rating, 9 a moderate rating, and 1 a higher rating. ONWASA's report may be viewed in entirety by accessing the following site: [http://www.deh.enr.state.nc.us/pws/SWAP\\_susceptibility\\_results.HTM](http://www.deh.enr.state.nc.us/pws/SWAP_susceptibility_results.HTM)

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 (Potential Contaminant Sources) in the assessment area.

Questions concerning the SWAP report can be addressed by phone to the Source Water Assessment staff at 919-715-2633.

## Summary

Please understand in our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system for the benefit of all customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

If you have any questions or comments regarding this report or concerning your water utility, please contact Karen Wallace at (910) 937-7520. We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings held on the third Thursday of the month at 6:00 p.m. We would also like to encourage our customers to visit our web site at <http://www.onwasa.com> for more information on water audits, the conservation plan and public education.

## Glossary of Terms

As you examine the tables, you may find many terms and abbreviations you might not be familiar with. We've provided the following definitions to help you better understand these terms.

*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 constituent is not present.

*Parts per million (ppm) or Milligrams per liter (mg/l)* - one part per million corresponds to one minute in two years.

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

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

*Maximum Contaminant Level* - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

*Maximum Contaminant Level Goal* - The "Goal" (MCLG) is 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.

## Possible Health Effects Associated With Contaminants Found in the Tables

### Microbiological Contaminants

*Total Coliform*. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present.

### Inorganic Contaminants:

*Copper*. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

*Lead*. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

*Antimony*. Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in

blood cholesterol and decreases in blood sugar.

*Arsenic*. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

*Asbestos*. Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

*Barium*. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

*Beryllium*. Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.

*Cadmium*. Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.

*Chromium*. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

*Cyanide*. Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

*Fluoride*. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth. many years could develop kidney problems or high blood pressure.

*Mercury (inorganic)*. Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

*Selenium*. Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

*Thallium*. Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

*2,4-D*. Some people who drank water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver or adrenal glands.

### Disinfection By-Products:

*TTHMs [Total Trihalomethanes]*. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

*Nitrate*. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

## Consumer Confidence Report Tables

ONWASA routinely monitors for contaminants in your drinking water according to Federal and State laws. The amount and frequency of sampling conducted is dictated by the population served and ONWASA's sampling history. This means that because certain contaminants have not been found or are unlikely to be found in your drinking water, monitoring is not required to be conducted every year for those contaminants. ONWASA routinely conducts one hundred (100) bacteriological samples throughout the service area monthly to ensure the safety of your drinking water. The Consumer Confidence Report Tables included in this report show the results of all required monitoring for the period of January 1st to December 31st, 2010.

Contaminants listed in the Regulated Contaminant Table only list contaminants that were detected above the required reporting limit. Many samples routinely conducted are below this limit and are reported as Non-Detects (N/D). For a list of all the sampling conducted in 2010 that had Non-Detects, you may access ONWASA's Drinking Water Watch web site at: [https://www.pwss.enr.state.nc.us/NCDWW/JSP/Fact.jsp?tinwsys\\_is\\_number=5991&tinwsys\\_st\\_code=NC&begin\\_date=&end\\_date=&counter=](https://www.pwss.enr.state.nc.us/NCDWW/JSP/Fact.jsp?tinwsys_is_number=5991&tinwsys_st_code=NC&begin_date=&end_date=&counter=).

The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. If you would like more information on unregulated chemicals you may call the EPA Hot Line at 1-800-426-4791.

Contamination levels are measured using Maximum Contaminant Levels (MCLs), which 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.

2010 Analytical Results for Regulated Contaminants					
<b>Microbiological Contaminants</b>					
Contaminant	Violation Y/N	MCL	Number of sites testing positive	Likely source of contamination	
Total Coliform Bacteria	N	presence in 5% of monthly samples	4 of 1,200	Naturally present in the environment.	
Fecal Coliform and E.Coli	N	A routine sample and repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive.	0 of 1,200	Human and animal fecal waste.	
<b>Inorganic Contaminants</b>					
Contaminant	Violation Y/N	MCL in MG/L	90th Percentile	Sites that exceeded MCL	Likely Source of Contamination
Lead	N	AL=0.015	0.003mg/l	0	Occurs naturally in soil. Its presence in drinking water is almost entirely due to corrosion of private household plumbing.
Copper	N	AL=1.3	0.359 mg/L	0	Occurs naturally in soil, but can be present in drinking water due to corrosion of private household plumbing.
<b>Water Purchased from MCAS New River</b>					
Lead	N	AL=0.015	0.012	1	<i>Important Note: The water purchased from MCAS New River makes up approximately 4% of the water used by ONWASA during 2010.</i>
Copper	N	AL=1.3	0.468	0	
			Ranges or Results in MG/L	Sites that exceeded MCL	
Antimony	N	0.006	<.0003	0	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
Arsenic	N	0.01*	<.005	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Barium	N	2	<.04	0	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Beryllium	N	0.004	0.002	0	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defence industries.
Cadmium	N	0.005	<.001	0	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
Chromium	N	0.1	0.02	0	Discharge from steel and pump mills; erosion of natural deposits.
Cyanide	N	0.3	<.05		Discharge from steel/metal factories; discharge from plastic and fertilizer factories.
Mercury (inorganic)	N	0.002	<.0004	0	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Fluoride	N	4	1.40 to 0.2	0	Erosion of natural deposits; water additives which promote strong teeth; discharge from fertilizer and aluminum factories.
Selenium	N	0.05	<.01	0	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Thallium	n	0.002	<.001	0	Leaching from ore-processing sites; discharge from electronics, glass and drug factories.
<b>Secondary Inorganic Compounds</b>					
Iron	N	0.3	<.06	0	Erosion of natural deposits
Manganese	N	0.05	<.01 to 0.033	0	Erosion of natural deposits
Sodium	N		66 to 209		Erosion of natural deposits
<b>Water Purchased from MCAS New River</b>					
2,4-D	N	0.070	0.00023	0	Runoff from herbicide used on row crops

Disinfection By-Products					
Contaminant	Violation Y/N	MCL in MG/L	4 quarter average	Range detected in MG/L	Likely Source of Contamination
TTHM	N	0.080	0.047	0.010-0.103	By-product of drinking water chlorination
HAA5	N	0.060	0.009	0.000-0.037	By-product of drinking water chlorination
Purchased water from MCAS New River Disinfection By-Products within same range.					
<b>Other sampling conducted in 2010 found no detection for 21 Volatile Organic Chemicals and no detection of Nitrates or Nitrites in all 16 water sources.</b>					

NOTICE TO THE PUBLIC				
Important Information About Your Drinking Water				
ONWASA Has Not Met Monitoring Requirements				
Onslow Water and Sewer Authority is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period(s) specified in the table below, Onslow Water and Sewer Authority did not monitor or test enough samples for the contaminants group(s) listed and therefore cannot be sure of our drinking water during that time.				
Contaminant Group	Entry Point/Location Code	Compliance Period Begin Date	Sampling Frequency	When Samples were or will be taken
Fecal Indicator	D01	March 1, 2010	Monthly	April 2010
Fecal Indicator	001/007/010/011	May 1, 2010	Triggered	August 2010
<b>What should I do?</b> THERE IS NOTHING YOU NEED TO DO AT THIS TIME.				
<b>What happened? What is being done?</b> When will the problem be corrected? In March ONWASA sampled 99 out of the 100 required bacteriological sites required to meet compliance. Sampling conducted in April included 100 sites and all samples were negative for bacteriological contamination. In May required bacteriological sampling was not conducted at 4 of the 6 wells required to be sampled. Sampling was conducted in August of all 6 wells and results were negative for bacteriological contamination.				
Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.				
<b>For more information, please contact:</b>				
<b>Responsible Person</b> Karen Wallace	<b>System Name</b> Onslow Water and Sewer Authority		<b>System Address</b> 228 Georgetown Road	
<b>Phone Number</b> (910)937-7 520	<b>System PWSID#</b> 04-67-035		<b>System Address (City, State, Zip)</b> Jacksonville, NC 28540	
Violation Awareness Date: July 8, 2010, September 20, 2010				
<b>Contaminant Group List</b>				
Microbiological Contaminants Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other , potentially harmful bacteria may be present.				

2010 Analytical Results for Unregulated Contaminants	
Chemical	Results
2,4,5-HBB	<0.0007 mg/L
BDE-100	<0.0005 mg/L
BDE-153	<0.0008 mg/L
BDE-47	<0.0003 mg/L
BDE-99	<0.0009 mg/L
Dimethoate	<0.0007 mg/L
Terbufos Sulfone	<0.0004 mg/L
1,3-dinitrobenzene	<0.0008 mg/L
RDX	<0.001 mg/L
TNT	<0.0008 mg/L

2010 Analytical Results for Unregulated Contaminants List 2	
Chemical	Results
Acetochlor	<0.002mg/L
Alachlor	0.002mg/L
Metolachlor	<0.001mg/L
N-nitroso-dimethylamine	<0.000002mg/L
N-nitroso-methlethylamine	<0.000003mg/L
N-nitroso-diethylamine	<0.000005mg/L
N-nitroso-di-n-propylamine	<0.000007mg/L
N-nitroso-pyrrolidine	<0.000002mg/L
N-nitroso-di-n-butylamine	<0.000004mg/L
Alachlor(OA)	<0.002mg/l
Acetochlor(OA)	<0.002mg/l
Alachlor(ESA)	<0.001mg/l
Metolachlor(OA)	<0.002mg/l
Acetochlor(ESA)	<0.001mg/l
Metolachlor(ESA)	<0.001mg/l

**Onslow Water and Sewer Authority**  
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