



2018 Annual Drinking Water Quality Report

Town of Wrightsville Beach

Public Works Department

PWS ID#04-65-020 April 2019

Dear Customers,

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your sources of water, 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 efforts 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.

What the 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 people with cancer undergoing chemotherapy, people 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 providers. EPA/CDC guidelines on appropriate means to lessen the risk of infections by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Questions & Concerns

For any questions that you may have about Wrightsville Beach's water or the 2018 Annual Drinking Water Quality Report, please contact the Wrightsville Beach Public Works at (910) 256-7935 or send an email to bfay@towb.org

The Source and Treatment of Wrightsville Beach Water

The Town of Wrightsville Beach’s water source is groundwater from the PeeDee Aquifer. There are nine wells, two water treatment centers, two ground storage reservoirs, and two elevated tanks located throughout the Town. The wells pump water from the aquifer to the surface where it is then treated and pumped throughout the distribution system and into the two elevated storage tanks. The elevated tanks maintain proper system pressure and store treated water until it is needed. These processes assure that the Town has the highest possible quality and quantity of water available to you every day.

The Town of Wrightsville Beach uses chlorine as a method of disinfection for drinking water pulled from wells. Chlorination is commonly used to remove microorganisms and bacteria, prevent waterborne diseases from spreading, and decrease secondary contaminants, or substances that affect the taste, odor, and/or color of drinking water. These aesthetic secondary contaminants, such as sulfur bacteria, normally do not have any health effects and normally do not affect the safety of your water.



Source Water Assessment Program (SWAP)

The North Carolina Department of Environment and Natural Resources (DENR), Public Works Supply (PWS) Section, Source Water Assessment Programs (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessment was to determine the susceptibility of each drinking water sources (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 the Town of Wrightsville Beach 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 table to the right.

The complete SWAP Assessment report for the Town of Wrightsville Beach may be viewed on the Web at: www.ncwater.org/pws/swap. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this CCR was prepared. If you are unable to access you SWAP report on the web, you may mail a written request for a printed copy to Source Water Assessment Program – Report Requests, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, 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 919-707-9098.

Source Name	Susceptibility Rating	Report Date
Well #1	Higher	April 2017
Well #2	Lower	April 2017
Well #3	Lower	April 2017
Well #4	Moderate	April 2017
Well #5	Lower	April 2017
Well #6	Higher	April 2017
Well #7	Moderate	April 2017
Well #8	Moderate	April 2017
Well #11	Moderate	April 2017

It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the system’s potential to become contaminated by Potential Contaminant Sources (PCSs) in the assessment area.

Important Drinking Water Definitions

Maximum Contaminant Level (MCL) – the “maximum allowed” is the highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Action Level (AL) – the concentration of a contaminant which, if exceeds, triggers treatment or other requirements which a water system must follow.

Maximum Residual Disinfection 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.

Locational Running Annual Average (LRAA) – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

Maximum Contaminant Level Goal (MCLG) – the “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health.

Maximum Residual Disinfectant Level Goal (MRDLG) – the “Level” of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the disinfectants to control microbial contaminants.

Total Trihalomethanes (TTHM) - include Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.

Haloacetic Acids (HAA5) - include Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid.

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 (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/L) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Possible Contaminants

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 and gas productions, mining, or farming;
- ◇ **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential users;
- ◇ **Organic chemical contaminants**, 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 contaminants**, which 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, 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 must provide the same protection for public health.

Lead

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 Town of Wrightsville Beach 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.edp.gov/safewater/lead>.



Save Water, Save Money

Millions of households pay for unused water in the form of leaks or even wasted water. Common sources of household leaks include running toilets, faucets, showerheads, and landscape irrigation. But you should also consider less obvious sources of leaks such as water heaters, ice makers, dishwashers, and filtration systems. Many of these are easily correctable, and fixing them can save about 10 percent on the average water bill.

Spotting and repairing leaks is a main example of unintentionally wasted water, however more water is wasted through typical actions and routines that happen around a household. For example, running the tap while brushing your teeth, excessively watering lawns, leaving hoses running while not using them, and not reusing water for things such as watering indoor plants. Reducing water waste not only reduces your water bill but also reduces the environmental impact that comes with wasted water.



Water Quality Data Table of Detected Substances

Over 150 substances are routinely monitored in your drinking water in compliance with Federal and State laws. The tables shown list all of the drinking water contaminants detected in the last round of sampling for each specified contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the date presented in this table is from testing done through December 31, 2018.**

The EPA or the State requires monitoring for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Thus, some of the data, may be more than a year old.

Unregulated contaminants are those which EPA has not established drinking water standards. The purpose of unregulated contaminants monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

2018 Water Violations

The Town is proud to report that your water system has had no violations and that your drinking water meets or exceeds all Federal and State standards.

However, due to previous violations the Town of Wrightsville Beach has developed new improvements to the distribution system to help combat future water quality violations. One such improvement was to install aerators and mixers in both of the elevated tanks located on the island to help prevent the treated water from remaining still within the tanks for long durations and therefore lessening the water quality. We also established more routine flushing protocols throughout the year to prevent any water from remaining stagnant within our system, helping reduce any contaminants from forming as well as reducing aesthetic issues such as smell and discoloration.

Microbiological Substances					
Substance (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source
Total Coli form Bacteria (presence or absence)	N	0	0	One monthly positive	Naturally present in the environment

Inorganic Substances						
Substance (units)	Sample Date	MCL Violation Y/N	Your Water Average	Range Low-High	MCL	Likely Source
Fluoride (ppm)	3/14/18	No	0.26	0.2-0.4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Sulfate (ppm)	3/14/18	No	17	0-21	250	Occurs naturally in drinking water
Iron (ppm)	3/14/18	No	0.07	0-0.13	N/A	Runoff or leaching from natural deposits

Unregulated VOC Substances						
Substance (units)	Year Sampled	Your Water	MCLG	MCL	Range Low-High	Likely Source
Carbon tetrachloride (ppm)	2018	<0.0005	0	0.005	0<0.0005	Discharge from chemical plants and other industrial activities
All other VOCs (ppm)	2018	Undetected	N/A*	N/A*	0 < 0.0005	N/A*

Lead and Copper Substances						
Substance (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source
Copper (ppm) (90th percentile)	July 2017	0.220	0	1.3	AL = 1.3	Corrosion of household plumbing system; erosion of natural deposits; leaching from wood preservative
Lead (ppb) (90th percentile)	July 2017	0.002	0	0	AL = 0.015	Corrosion of household plumbing system; erosion of natural deposits

Radiological Substances						
Substance (units)	Sample Date	Your Water Average	Range Low-High	MCL G	MC L	Likely Source
Alpha emitters (pCi/l)	2014 Quarterly Composite	3 pCi/l	Not Detected	0	15	Erosion of natural deposits

ppm: parts per million or milligrams per liter (mg/L); **ppb:** parts per billion or micrograms per liter (µg/L); **90th percentile:** out of every 10 homes sampled, 9 were at or below this level; **VOC:** Volatile Organic Compounds; **N/A:** Not Applicable

* Varies depending on the substance; more information can be found at: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#Organic>

Disinfection By-Product Contaminants (Stage 2 Compliance)							
Disinfection By-Product	Year Sampled	MCL Violation Y/N	Your Water LRAA	Range Low-High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)							
B01	2018	No	48	32-78	N/A	80	Byproduct of drinking water disinfection
B02	2018	No	32	20-47	N/A	80	Byproduct of disinfection
HAA5 (ppb)							
B01	2018	No	7	2-12	N/A	60	Byproduct of drinking water disinfection
B02	2018	No	8	4-12	N/A	60	Byproduct of drinking water disinfection
Chlorine (ppm)	2018	No	0.17	0.02-0.97	MRDLG = 4	MRDL = 4	Water additive used to control microbes

TTHM: Total Trihalomethanes; **HAA5:** Haloacetic acids; **LRAA:** Location Running Annual Average, the average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule