

# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2015



*Presented By*  
**MCAS Cherry Point**

## Meeting the Challenge

Once again we are proud to present our annual drinking water report, covering all drinking water testing performed between January 1 and December 31, 2015. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to your homes and businesses. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

## Community Participation

You are invited to participate in our board meetings and voice your concerns about your drinking water. Please contact Cheryl Murray at 466-5151 for information related to meeting opportunities.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



## Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may 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 Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## How Does Cherry Point Treat and Purify Its Water?

Raw water is pumped to the treatment plant from 23 wells located on the air station. After the water arrives at the water treatment plant, certified operators process the water for treatment involving multiple steps. The first two steps involve aeration and the addition of a precise amount of chemicals for precipitant softening, which prepare the water for ozone treatment. Then the water is pumped through an ozone contact chamber. Ozonation disinfects and removes color from the water and aids oxidation of iron, organics, and manganese. The water is then filtered through thick beds of anthracite coal and sand to remove remaining particles. The final step involves the addition of sodium hypochlorite for further disinfection. The treated water is subsequently distributed through 140 miles of piping.

## What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

## Community Water Fluoridation

The safety and benefits of fluoride are well documented. For over 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25% in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level.

Nearly all water contains some fluoride, but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the U.S. Because of its contribution to the dramatic decline in tooth decay, the Centers for Disease Control and Prevention (CDC) named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: [www.cdc.gov/fluoridation](http://www.cdc.gov/fluoridation))

## QUESTIONS?

For more information about this report, or questions relating to your drinking water, please call Steve Reavis, Facilities Maintenance Department, at (252) 466-6850 or Cheryl Murray, Environmental Affairs Department, at (252) 466-5151.

## PUBLIC NOTICE: Fluoridation of MCAS Cherry Point Potable Water

MCAS Cherry Point Water Treatment Plant will begin fluoride treatment utilizing hydrofluorosilicic acid on July 1, 2016. The fluoride additive will be fed into the drinking water to maintain fluoride concentrations between 0.7 - 1.0 ppm, with a target of 0.7 ppm optimal dosage. When used appropriately, fluoride is safe and effective in preventing and controlling dental tooth decay. According to the U.S. Center of Disease Control (CDC), fluoride is needed regularly throughout life to prevent teeth against decay. Fluoridation of MCAS Cherry Point's drinking water is being undertaken in compliance with regulations administered by the North Carolina Department of Environmental Quality (NCDEQ) and the U.S. Environmental Protection Agency (EPA). This action is directed by Department of Defense memorandum "Fluoridation at DOD Owned or Operated Potable Water Treatment Plants," dated March 18, 2013, and Marine Corps policy. More information concerning fluoridation can be obtained at <https://www.ilikemyteeth.org>. If you have questions or require additional information, please contact Cheryl Murray with the Environmental Affairs Department at (252) 466-5151.

## Where Does My Water Come From?

The source of Cherry Point's drinking water is groundwater from the Castle Hayne Aquifer, which extends from southern Virginia to Wilmington, North Carolina. Water is removed from depths of 195 feet to 329 feet below the surface by 23 wells and then pumped to a state-of-the-art water treatment plant. The Cherry Point Water Treatment Plant provides, on average, 4.1 million gallons per day of drinking water to 17,144 customers who live and work at MCAS Cherry Point.

## Failure in Flint

The national news coverage of water concerns in Flint, Michigan has described the water as being corrosive. Corrosive water is a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at excessive rates. While a PH of less than 7 is considered corrosive, the lower the PH the more corrosive the water becomes. By itself, corrosive water is not a health concern; your morning glass of orange juice is more corrosive than the typical lake or river. What is of concern is that exposure to elevated levels of dissolved metals in drinking water increases health risk. Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. At Cherry Point the PH is maintained between 6 - 8, additionally phosphate is added during treatment to protect metallic plumbing from leaching into the water supply.

## Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 [www.epa.gov/lead](http://www.epa.gov/lead).

## SWAP Report

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 assessments are available in SWAP reports that include maps, background information and a relative susceptibility rating of higher, moderate, or lower. This susceptibility rating does not imply poor water quality, but rather the system's potential to become contaminated by PCSs in the assessment area.

The relative susceptibility rating of each source for MCAS Cherry Point 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 SWAP report, dated August 24, 2015, indicates a susceptibility rating of moderate for nine potable wells (4, 8, 11, 12, 14, 16, 21, 24, 26) and a susceptibility rating of lower for all other source water wells.

The complete SWAP report for MCAS Cherry point may be viewed at <http://www.ncwater.org/?page=63>. 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 Consumer Confidence Report was prepared. To obtain a printed copy of the SWAP report, please mail a written request to Source Water Assessment Program-Reports Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or e-mail a request to [swap@ncmail.net](mailto:swap@ncmail.net). Please indicate your system name, PWSID, and 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.

## Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.



## Sampling Results

During the past year, we have taken hundreds of water samples in order to determine the presence of any biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The state requires us to monitor for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Bromate (ppb)	2015	10	0	6	ND-6	No	By-product of drinking water disinfection
Chlorine (ppm)	2015	[4]	[4]	1.9	0.03-1.9	No	Water additive used to control microbes
Dalapon (ppb)	2014	200	200	1.8	ND-1.8	No	Runoff from herbicide used on rights of way
Fluoride (ppm)	2014	4	4	0.22	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]-Stage 1 <sup>1</sup> (ppb)	2015	60	NA	33	13-54	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]-Stage 1 <sup>1</sup> (ppb)	2015	80	NA	55	32-61	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2013	1.3	1.3	0.410	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2013	15	0	6	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2014	50	NA	13	NA	No	Leaching from natural deposits
Sulfate (ppm)	2014	250	NA	92.3	NA	No	Runoff/leaching from natural deposits; Industrial wastes

### UNREGULATED SUBSTANCES<sup>2</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium	2014	78	NA	Naturally occurring

### UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)<sup>3</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH
Chlorate (ppb)	2015	303	297-303
Chromium-6 (ppb)	2015	0.11	0.10-0.11
Strontium (ppb)	2015	275	268-275

<sup>1</sup> Stage 2 sampling began December 2015. Compliance calculation will be complete September 2016 and reported in the 2017 CCR.

<sup>2</sup> Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of monitoring unregulated contaminants is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

<sup>3</sup> UCMR3 second round of testing

## Definitions

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

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant 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.

**NA:** Not applicable

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like taste and odor.