NSA HAMPTON ROADS-NORTHWEST ANNEX
CHESAPEAKE, VIRGINIA
2024 CONSUMER CONFIDENCE REPORT

Inside this issue:

NSA HR-Northwest Annex Source Water	**1**
Definitions and Abbreviations	**2**
2024 Sampling Results Table	**3**

For additional information:

Virginia Department of Health
757-683-2000
http://www.vdh.virginia.gov/drinking-water/

USEPA Safe Drinking Water Hotline
800-426-4791
http://www.epa.gov/safewater/

NSA Hampton Roads Public Works Department Environmental
757-836-1862

Naval Support Activity Hampton Roads (NSA HR)-Northwest Annex is committed to providing you drinking water that is safe and reliable. NSA HR-Northwest Annex believes that providing you with accurate information about your water is the best way to assure that it is safe. There were no drinking water violations to report for 2024.

In 2018, Per- and Polyfluoroalkyl substances (PFAS) were detected in two groundwater withdrawal wells above the EPA health advisory (HA) levels. These wells supply drinking water for Water Treatment Plant #1, but the plant and these wells have not been in service since 2014. While PFAS are unregulated contaminants, the Navy is taking corrective actions and treatment upgrades to reduce PFAS levels below EPA HA levels before the wells will be returned to service. In 2023 and 2024, PFAS was detected below the EPA HA level in samples collected from finished water at Water Treatment Plant #2. For additional information on PFAS and the Navy's continued testing program, please see page 4 of this report.

Each year, the Consumer Confidence Report (CCR) is required to be distributed by July 1st of the current year. This CCR is a snapshot of the quality of your drinking water in 2024. The purpose of this annual report is to advise consumers of where their water comes from, provide water quality data, advance greater understanding of drinking water, and heighten awareness to conserve water resources. In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

NSA HR-NORTHWEST ANNEX SOURCE WATER

NSA HR-Northwest Annex obtains raw water from the Yorktown aquifer, a naturally clean source of groundwater. Pumps, located in pump houses, are used to withdraw water from nine deep-water wells at the installation. Five wells supply Water Treatment Plant No. 1 (currently off line) and are located east of Wren Street in the vicinity of the Navy Housing complex. Four other wells supply water to Water Treatment Plant No. 2 and are located between Relay Road and Douglas A. Munro Road, south of the Coast Guard facility.

Raw water (sometimes referred to as untreated water) is pumped from the wells into the treatment plants and passes through pressure filters called "greensand filters." The greensand filters are designed to remove naturally occurring iron and manganese from the groundwater. After passing through the filters, chlorine is added to the treated water to disinfect and protect against microbiological contamination. This treated water is then pumped into storage tanks prior to being fed into the distribution system and ultimately to your faucet. NSA HR-Northwest Annex, with the help of the Virginia Health Department, monitors your drinking water throughout the year to ensure that it is safe to drink.

The source of NSA HR-Northwest Annex drinking water includes four deep wells.

ABOUT DRINKING WATER

The sources of drinking water (both tap 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 (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated while groundwater may or may not receive any treatment.

The Virginia Department of Health conducted a Source Water Assessment of the NSA HR-Northwest Annex Waterworks in April 2019. All groundwater wells were determined to be of high susceptibility of contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the last five years. The report is available by contacting PWD NSA Hampton Roads Environmental at 757-836-1862.

ABOUT DRINKING WATER (continued)

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 may be naturally occurring or result from urban storm water 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 storm water 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 come from gas stations, urban storm water runoff, and septic systems.
Radioactive contaminants, which may be naturally occurring, or the result of oil and gas production and mining activities.

In addition to these contaminants, all lakes and streams contain algae, which are microscopic plants that can cause taste and odor problems in drinking water. All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water, which must provide the same protection for public health.

Who needs to take special precautions?
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems 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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations.

Kidney dialysis patients should consult with their health care providers or dialysis centers in order to take special precautions when using chloraminated water. Fish owners should be sure chloramines are removed from the water before it is used in aquariums or ponds. Many pet stores sell water conditioners for chloraminated water.

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

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. NSA HR-Northwest Annex is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact NSA HR Environmental at 757-836-1862. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead.

In accordance with the Lead and Copper Rule Revision (LCRR), a Lead Service Line Inventory (LSLI) for NSA HR-Northwest Annex was prepared and approved for 2024. For access to the LSLI, contact NSA HR Environmental at 757-836-1862.

DEFINITIONS AND ABBREVIATIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the following pages shows the results of monitoring for 2024. In the tables and elsewhere in this report you may find many terms and abbreviations which you are not familiar. The following definitions are provided to help you better understand these terms:
Action Level (AL) - The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow. For lead and copper monitoring, compliance is based on the 90th percentile value.
Level 1 Assessment – A Level 1 assessment is a study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in our waterworks.
Level 2 Assessment – A level 2 assessment is a very detailed study of the waterworks to identify potential problems and determine, if possible, why an *E. Coli* PMCL violation has occurred and why total coliform bacteria have been found in our waterworks on multiple occasions.
Health Advisory (HA) - Health advisories provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. EPA's health advisory level for PFOA and PFOS offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.
Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG) - 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.
Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water based on running annual average. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. For chlorine and chloramines, a waterworks is in compliance with the MRDL when the running annual average of monthly averages of samples taken in the distribution system, computed quarterly, is less than or equal to the MRDL.
Maximum Residual Disinfectant Level Goal (MRDLG) - 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 contamination.
NA – Not applicable
Nephelometric Turbidity Unit (NTU) – A measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

DEFINITIONS AND ABBREVIATIONS (continued)

Non-detection (ND) – Laboratory analysis indicates that the contaminant is not present.
Picocuries per liter (pCi/L) - A measure of the radioactivity in water.
Parts per million (ppm) or Milligrams per liter (mg/L) – A measurement of the amount of contaminant per unit of water. A part per million is one cent in $10,000 or one minute in two years.
Parts per billion (ppb) or Micrograms per liter (ug/L) – A measurement of the amount of contaminant per unit of water. A part per billion is like one cent in $10,000,000 or one minute in 2,000 years.
Secondary Maximum Contaminant Level (SMCL) – Non-enforceable standard that is established for aesthetic considerations.
Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

WATER QUALITY DATA

The following tables list only those contaminants that were present in your drinking water at levels detectable by laboratory equipment. Unless otherwise noted, the data presented in these tables is from testing done in 2024. We are required to monitor for certain contaminants less than once per year because the concentrations of these contaminants are less likely to change. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The EPA sets the Maximum Contaminant Levels (MCLs) and the Maximum Contaminant Level Goals (MCLGs) as listed in the tables. The Regulated Substances Table and the Unregulated Substances Table are provided for your information and as required by the Consumer Confidence Rule.

Inorganic Contaminants	Unit	MCLG	MCL	Highest Level	Range	Meets EPA Standards	Possible Source of Contamination
Fluoride (2022 Data)	ppm	4	4	0.17	NA	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from Fertilizer and Aluminum Factories.

Lead and Copper Monitoring	Unit	MCLG	AL	Samples above AL	Highest Level (90th percentile)	Range	Meets EPA Standards	Possible Source of Contamination
Lead (2023 Data)	ppb	0	15	0	3	ND – 4	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (2023 Data)	ppm	1.3	1.3	0	0.386	0.077 – 0.531	Yes	Corrosion of household plumbing systems

Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the AL, water systems must take additional steps. These samples were collected in 2023. The next sampling event will be in 2026.

Radiological Data	Unit	MCLG	MCL	Highest Level	Range	Meets EPA Standards	Possible Source of Contamination
Combined Radium (2023 Data)	pCi/L	0	5	0.8	NA	Yes	Erosion of natural deposits
Gross Beta (2023 Data)	pCi/L	0	50	2.7	NA	Yes	Decay of natural and man-made deposits

*EPA considers 50 pCi/L as the level of concern for beta particles

Microbiological Contaminants	Unit	MCLG	MCL	Highest Level	Range	Meets EPA Standards	Possible Source of Contamination
E. Coli	# of positive samples	0	*	0	NA	Yes	Human and animal fecal waste

*Effective April 1, 2016 The Revised Total Coliform Rule established the following Primary Maximum Contamination Level (PMCL): In compliance unless (i) the waterworks has an E. coli-positive repeat sample following a total coliform-positive routine sample; (ii) the waterworks has a total coliform-positive repeat sample following an E. coli-positive routine sample; (iii) the waterworks owner fails to take all required repeat samples following an E. coli-positive routine sample; or (iv) the waterworks owner fails to test for E. coli when any repeat sample tests positive for total coliform.

Residual Disinfectants and Disinfection By Products	Unit	MCLG	MCL	Highest Level[1]	Range[1]	Meets EPA Standards	Possible Source of Contamination
Haloacetic Acids (HAA5)	ppb	NA	60	18	9-16	Yes	A by-product of drinking water disinfection
Trihalomethanes (TTHM)	ppb	NA	80	67.6	45.4-67.6	Yes	A by-product of drinking water disinfection
Total Chlorine Residual	ppm	4[2]	4[3]	1.14	0.8-1.4	Yes	A water additive used to control microbes

[1]The highest levels found for TTHM and HAA5 were the highest locational running annual averages found at each of the sample sites for each of the four quarters in 2024. The range is the highest and the lowest values found in the individual samples. The highest level found for Total Chlorine Residual was based on the running annual average calculated for each of the four quarters in 2024. The range is the highest and lowest values found in the individual samples.[2]MRDLG [3]MRDL

Secondary and Unregulated Monitored Substances	Unit	SMCL	Highest Level	Range[4]	Likely Source
Hardness	ppm	NA[5]	194	147-194	Naturally present in the environment
Iron	ppm	0.3	0.15	0.02 - 0.15	Natural in environment
Manganese	ppm	0.05	0.15	0.004 – 0.15	Natural in environment
Sodium (2022)	ppm	NA[6]	30.8	NA	Natural in environment; also from use of chemicals at water treatment plant
Turbidity	NTU	NA[7]	0.3	0.1-0.3	Soil runoff
Antimony (2022)	ppb	PMCL = 6	ND	NA	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

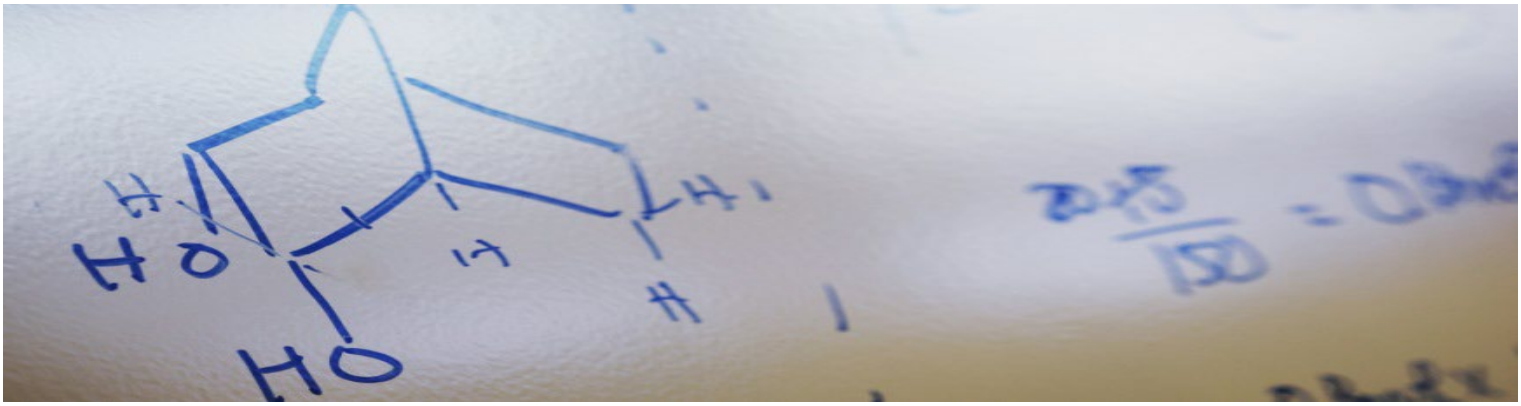
[4] These are results of samples collected from Plant No. 2. As mentioned in NSA NORTHWEST ANNEX SOURCE WATER ASSESSMENT, the Water Treatment Plant No. 1 is currently offline and has been out of service since 2014.

[5] While safe to drink and use for household purposes, hard and soft water will affect your home in different ways. Soft water can lead to early corrosion in pipes while moderately hard water and higher may cause some skin dryness, staining or spotting on glassware.

Water Hardness Scale		
Grains/Gal	mg/L & ppm	Classification
Less than 1	Less than 17.1	Soft
1 – 3.5	17.1 - 60	Slightly Hard
3.5 - 7	60 - 120	Moderately Hard
7 - 10	120 - 180	Hard
Over 10	Over 180	Very Hard

[6] Sodium was detected in your water sample at 35.8 mg/L. There is presently no established standard for sodium in drinking water. Water containing more than 270 mg/L of sodium should not be used as drinking water by those persons whose physician has placed them on moderately restricted sodium diets. Water containing more than 20 mg/L should not be used as drinking water by those persons whose physician has placed them on severely restricted sodium diets.

[7] Northwest Annex falls under groundwater source with no influence from surface water, therefore Turbidity is not required. However, it is still measured as an indicator of the cloudiness of water. Turbidity by itself is not harmful but can interfere with the disinfection of drinking water. Turbidity is a good indicator of the effectiveness of the filtration system.



PFAS

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS are found in many consumer products, as well as in industrial products, like certain firefighting agents called aqueous film forming foam (AFFF). PFAS is also found in essential use applications such as in microelectronics, batteries, and medical equipment. PFAS chemicals are persistent in the environment, and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

Is there a regulation for PFAS in drinking water?

On April 26, 2024, the United States Environmental Protection Agency (EPA) published a National Primary Drinking Water Regulation (NPDWR) final rule on drinking water standards for six PFAS under the Safe Drinking Water Act (SDWA). The rule establishes the following maximum contaminant levels (MCLs):

- perfluorooctane sulfonic acid (PFOS) = 4 ppt
- perfluorooctanoic acid (PFOA) = 4 ppt
- hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX) = 10 ppt
- perfluorononanoic acid (PFNA) = 10 ppt
- perfluorohexane sulfonic acid (PFHxS) = 10 ppt
- HI MCL for PFHxS, PFNA, perfluorobutane sulfonic acid (PFBS), and GenX = 1 (unitless).

Under the NPDWR, regulated public water systems (PWS) are required to complete initial monitoring by April 26, 2027. Beginning April 26, 2027, regulated PWSs will conduct ongoing compliance monitoring in accordance with the frequency dictated by the rule and as determined by the initial compliance monitoring results. Regulated PWSs must demonstrate compliance with the Maximum Contaminant Levels (MCLs) by April 26, 2029.

In order to provide safe drinking water to all Department of Defense (DoD) personnel, OSD policy extends this requirement to all DoD systems which provide drinking water for human consumption, regardless of size of the drinking water system. In addition to the six regulated compounds, DoD-owned systems are required by DoD policy to monitor for all 25 compounds detected when using EPA Method 533.

Protecting the health of our personnel, their families, and the communities in which we serve is a priority for the Department. DoD is committed to complying with requirements of the NPDWR and the continued provision of safe drinking water to those that work and live on DoD installations.

Has NSA HR-Northwest Annex tested its water for PFAS in 2024?
Yes. In December 2024 samples were collected from finished water at Water Treatment Plant #2. We are informing you that two of the 25[2] PFAS covered by the sampling method were detected in your water system. The results are provided in the table below. EPA does not have an MCL for all of these compounds at this time. PFHxS and PFBS were detected but below the new MCL.

PFAS	Unit	MCL	Highest Level	Likely Source
PFHxS	ppt	10	2.7	Firefighting foam, non-stick cookware and food packaging, waterproof clothing and shoes, stain resistant carpeting
PFBS	ppt	Hazard Index Calculation=1	6.0	Firefighting foam, non-stick cookware and food packaging, waterproof clothing and shoes, stain resistant carpeting

*Finished water at Water Treatment Plant #2 was sampled in December 2024 for all PFAS, PFOA and PFOS compounds using EPA approved sampling methods 533 and 537.1.2. PFHxS and PFBS were the only compounds detected.

What is next?
NSA HR-Northwest Annex will continue to monitor for PFAS in accordance with the EPA regulation and DoD policy. Once required initial monitoring information is available, we will calculate the Running Annual Averages (RAA) for the regulated PFAS and will compare the sample results to the MCL and Hazard Index (HI) trigger levels. This will determine what our continuing monitoring requirements will be beginning in 2027, and if needed, we will plan operational or infrastructure changes to ensure our water complies with the PFAS MCLs and HI by April 2029 in accordance with the SDWA.

VIOLATIONS AND EXCEEDANCES

There were no drinking water violations to report for 2024 for NSA HR-Northwest Annex.

QUESTIONS

Please contact PWD NSA Hampton Roads Environmental staff at 757-836-1862 if you have any questions regarding this report.

To access this report electronically, please visit the Commander, Navy Region Mid-Atlantic website:
https://cnrma.cnic.navy.mil/Operations-and-Management/Environmental-Support/Drinking-Water-Quality-Information/