

2022 Drinking Water Consumer Confidence Report

Naval Air Station Patuxent River, Maryland

Public Water System Identification (PWSID) MD0180022

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

Naval Air Station Patuxent River (NASPR) is pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) regulates Public Water Systems and the contaminants found in water through the implementation of the SDWA. The Maryland Department of the Environment (MDE) is responsible for the enforcement of the SDWA. MDE routinely conducts inspections and provides a yearly monitoring schedule for all public water systems. Monitoring schedules include the collection of monthly bacteria samples, annual nitrate samples, monitoring of chlorine disinfectant residuals, and other parameters sampled in multi-year intervals. In addition to the EPA and MDE, the NASPR Public Works Department conducts routine inspections and sampling to ensure the highest water quality is provided to the consumer.

Throughout the report, BLUE text reflects required information by the EPA or Maryland Department of the Environment (MDE).

Where does my water come from?

The NASPR water that is being delivered to you is pumped from the Piney Point-Nanjemoy, Patapsco, and Aquia Aquifers, which are groundwater sources in St. Mary's County, Maryland. The recharge zone for these aquifers is a broad area approximately 25-75 miles north and northeast from our source. Your water is treated by chlorination, accomplished by injecting chlorine into the water supply. Chlorine kills bacteria and other microbes and prevents the spread of waterborne diseases. The water is chlorinated to ensure it is delivered safely to your building or residence.

Source Water

MDE's Water Supply Program has conducted a Source Water Assessment (SWA) for NASPR. The susceptibility analysis of this report is based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined that the NASPR water supply is not susceptible to contaminants originating at the land surface due to the protected nature of the confined aquifers. The wells pumping from the Aquia aquifer are susceptible to naturally occurring arsenic. The susceptibility of the water to radon-222, a naturally occurring element, will depend on the final MCL that is adopted for this contaminant. Due to security risks, distribution and access

to the SWA is restricted. For further information, you may contact the MDE Water Supply Program at (410) 537-3702.

Why are there contaminants in my drinking water?

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.

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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

Microbial contaminants: such as viruses and bacteria, that 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 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 can also come from gas stations, urban storm water runoff, and septic systems.

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, the 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 which must provide the same protection for public health.

Important Health Information

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. The EPA

and Centers for Disease Control (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).

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. NASPR 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. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. 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 please contact Naval Facilities Engineering Command, Public Works Department, Environmental Division Director, Lance McDaniel at lance.e.mcdaniel.civ@us.navy.mil. 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>.

While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Water Quality Data

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table, you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below.

Definitions

Term	Definition
ppm	milligrams per liter or parts per million - or one ounce in 7,350 gallons of water
ppb	micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water
pCi/L	Picocuries per liter (a measure of radioactivity)
NA	Not applicable
mrem	Millirems per year(a measure of radiation absorption by the body)
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.
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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
MRDLG	Maximum Residual Disinfection 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.
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.
Average	Regulatory compliance with some MCLs are based on running annual average of monthly samples.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
LOD	Limit of Detection: Lowest quantity or concentration of a component that can be reliably detected with a given analytical method.

2022 Water Quality Data

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Highest Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl ₂) (ppm)	4	4	1.0	0.8	1.0	2022	No	Water additive used to control microbes.
Haloacetic Acids (HAA5) (ppb)	NA	60	1.0	0	2.3	2022	No	By-product of drinking water disinfection.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	6	0.7	11.1	2022	No	By-product of drinking water disinfection.
Inorganic Contaminants								
Arsenic (ppb)	0	10	9	0	9.6	2022	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Radioactive Contaminants								
Radioactive Contaminants								
Radioactive Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Highest Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Fluoride (ppm)	4	4.0	0.53	0.42	0.53	2022	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

Beta/photon Emitters (pCi/L)	0	50	11.2	9.7	11.2	2021	No	Decay of natural and man-made deposits
Combined Radium 226/228 (pCi/L)	0	5	0.6	0.6	0.6	10/22/20	No	Erosion of natural deposits
Contaminants	MCLG	AL	90 th Percentile	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source	
Inorganic Contaminants								
Copper - action level at consumer taps (ppm)	1.3	1.3	0.059	2022	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.	
Lead – action level at consumer taps (ppb)	0	15	< 2.0	2022	0	No	Corrosion of household plumbing systems; erosion of natural deposits.	

Notice of Violations

NASPR received 4 monitoring violations for the 2022 calendar year. Three of the violations were due to unexpected well repairs and maintenance, well 3C was out of service at the end of the monitoring period and unable to collect a water quality sample for the contaminants listed below. When the well returns to operation, the required samples will be collected and analyzed. This will ensure the water system is in full compliance with MDE regulations. The fourth violation was due to late sampling and reporting for Lead and Copper.

There is no immediate concern for the water quality at NASPR, no alternative water sources are necessary. Any concerns or questions consumers have regarding water quality and/or violations can be directed to the Environmental Division Director, contact information available on the last page of this report.

As required by MDE, the following information is provided for consumer awareness:

1. Nitrate (Jan 1, 2022- Dec 31, 2022)
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.
2. Fluoride (Jan 1, 2020- Dec 31, 2022)

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. Fluoride in drinking water at half the MCL or more may cause mottling in children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of teeth, and occurs only in developing teeth.

3. Phase II/V Metals (Jan 1, 2020- Dec 31, 2022)

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.

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.

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

Selenium- 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 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.

4. Lead and Copper Rule (Oct 1, 2022- Jan 11, 2023)

The Lead and Copper Rule protects public health by minimizing lead and copper levels in drinking water, primarily by reducing water corrosivity. Lead and copper enter drinking water mainly from corrosion of lead and copper containing plumbing materials.

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 industrial and consumer products around the globe, including in the U.S., for decades. Due to their widespread use and environmental persistence, most people in the United States have been exposed to certain PFAS. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) used for fighting petroleum fires.

Is there a federal or Maryland regulation for PFAS in drinking water?

There is currently no federal drinking water standard for any PFAS compounds. In May 2016, the EPA established a lifetime drinking water health advisory (HA) level at 70 ppt for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS. In Maryland there is not a PFAS drinking water regulation.

The Department of Defense (DoD) issued a policy in 2020 to monitor drinking water for PFAS at all DoD owned and operated water systems at a minimum of every three years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA HA level of 70 ppt, water systems would 1) take immediate action to reduce exposure to PFOS or PFOA, to include providing alternative drinking water; and 2) undertake additional sampling to assess the level, scope, and localized source of contamination.

Beginning in 2020, MDE initiated a PFAS monitoring program. Our water system was not tested for PFAS in 2022. In March 2023, EPA announced proposed Maximum Contaminant Levels (MCLs) of 4 ppt for PFOA and 4 ppt for PFOS, and a Group Hazard Index for four additional PFAS compounds. Future regulations would require additional monitoring as well as certain actions for systems above the MCLs. EPA will publish the final MCLs and requirements by the end of 2023 or beginning of 2024. Additional information about PFAS can be found on the MDE website: mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx

What about the EPA's 2022 interim Health Advisories or proposed regulations?

EPA issued interim Health Advisories for PFOS and PFOA in 2022. However these newer levels are below quantifiable limits (i.e., below detection levels). EPA is expected to issue final regulations on PFAS in drinking water by the end of 2023. DoD looks forward to the clarity that a nationwide regulatory standard for PFOS and PFOA in drinking water will provide.

In anticipation of this EPA drinking water regulation and to account for emerging science that shows potential health effects of PFOS and PFOA at levels lower than 70 ppt, DoD is evaluating its efforts to address PFAS in drinking water, and what actions we can take to be prepared to incorporate this standard, such as reviewing our current data and collecting additional sampling where necessary. DoD remains committed to communicating and engaging with our communities throughout this process.

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.

- Shut off water while brushing your teeth, washing your hair, and shaving to save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Eliminate excess use of lawn and garden fertilizers and pesticides - they contain hazardous chemicals that can reach your drinking water source.
- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to a recycling center.
- Volunteer in your community. Find a watershed or wellhead protection organization in your community and volunteer to help. If there are no active groups, consider starting one. Use the EPA's Adopt Your Watershed to locate groups in your community, or visit the Watershed Information Network's How to Start a Watershed Team.
- Organize a storm drain-stenciling project with your local government or water supplier. Stencil a message next to the street drain reminding people to "Dump No Waste - Drains to River" or "Protect Your Water." Produce and distribute a flyer for households to remind residents that storm drains dump directly into your local water body.

How can I get involved?

The NASPR works diligently to provide top quality drinking water to every tap. As residents, employees, and caretakers here, please help us protect our water sources. We welcome your

suggestions to help maintain our high quality level of drinking water as well as to conserve water throughout the Station.

If you have questions or concerns please call or email the Naval Facilities Engineering Command, Public Works Department, Environmental Division Director:

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