

# Naval Support Facility Dahlgren 2017 Consumer Confidence Report (CCR)

Naval Support Activity South Potomac is pleased to present the 2017 Naval Support Facility (NSF) Dahlgren annual water quality report, covering testing performed between January 1 and December 31, 2017, as required by the Safe Drinking Water Act (SDWA). **Testing indicates your drinking water supply was in full compliance with federal and state SDWA standards during 2017.** We are committed to providing high-quality, safe, and reliable drinking water service to you every day, while also working hard to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. The 2017 drinking water monitoring schedule established by the Virginia Department of Health, included collection of routine monthly bacteria samples, annual nitrate/nitrite samples, triennial lead and copper samples, and monitoring chlorine disinfectant residuals.

## Special Precautions and Health Information:

(Note: This statement is required by the Virginia Department of Health Waterworks Regulations and 1998 Environmental Protection Agency (EPA) Consumer Confidence Report Rule.)

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/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.

## Substances Expected to be in Drinking Water:

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 (EPA) 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 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, 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 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 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 that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## **Water Source Information**

Potable water produced by the NSF Dahlgren drinking water system is comprised entirely of groundwater. No surface water enters the drinking water system. Water is pumped from 600 to 800 feet below ground from the Potomac Aquifer, which is a deep geologic feature that primarily recharges with the slow downward percolation of rainwater. This rate is so slow, that if rain fell today, it would take nearly one thousand years to reach the Aquifer.

A system of three water wells, all located on the southern portion of NSF Dahlgren, is used to bring groundwater to the surface where it is treated by disinfection, pressurized or sent to water towers for storage, and distributed to NSF Dahlgren consumers. Disinfection of the groundwater involves the addition of chlorine to kill any bacteria and microorganisms that may be in the water and it continues to disinfect water as it travels through pipes. Disinfection is considered to be one of the major public health advances of the 20th century. If you object to the chlorine taste of your tap water, try placing the water in an uncovered pitcher in the refrigerator overnight. This will reduce the chlorine taste.

## **Source Water Assessment and its Availability:**

The Virginia Department of Health conducted a source water assessment of the NSF Dahlgren drinking water system in 2002 and determined it to be of high susceptibility to contamination by using State-developed criteria 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 five years prior. The report is available by contacting the NSF Dahlgren Public Works Potable Water Program Manager at (540) 653-2341.

## **Note to Users of Infrequently Used Facilities:**

Some of our facilities have low or infrequent water use. To ensure that drinking water in these low-use facilities maintain proper chlorination, the Public Works Water Utilities operators regularly exercise the fire hydrants to keep chlorination levels elevated and fresh water moving through the system. First thing in the morning or after long periods without use, it may be desirable to improve the water taste by allowing fixtures to flow for a few minutes before water use. If you require assistance regarding infrequently used facilities, please call NSF Dahlgren Public Works Department, Utilities and Energy Management Branch, at (540) 653-8660 or (540) 653-1306.

## **Note to Sodium Sensitive Groups:**

The drinking water at NSF Dahlgren contains levels of sodium that measured between 88.3 and 95.9 milligrams per liter (mg/L) in 2017. U.S. Department of Agriculture and the Department of Health and Human Services jointly publish the Dietary Guidelines for Americans every five years. The latest version of the Dietary Guidelines is from 2010, and recommends individuals reduce daily sodium intake to less than 2,300 milligrams (mg), and further reduce intake to 1,500 mg among persons who are 51 and older and those of any age who are African American or have hypertension, diabetes, or chronic kidney disease.

## **Additional Information for 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 law currently allows end use fixtures, such as faucets, with less than 0.25% lead to be labeled as “lead free.” Visit the National Sanitation Foundation (NSF) website at [www.nsf.org](http://www.nsf.org) to learn more about lead-containing plumbing fixtures. 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. Use water only from the cold water tap for drinking, cooking, and

especially making baby formula, as hot water may contain higher levels of lead. 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 at (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

### **Home Filtration or Treatment Devices:**

While the drinking water at NSF Dahlgren is safe to drink and was in compliance with federal and state regulations during 2017, some individuals prefer to use an additional at-home or office filtration or treatment device. If you decide to use a filtration or treatment device, we strongly encourage you to contact the NSF for a list of approved devices. If you purchase a treatment device for private home use, we also strongly recommend that it is maintained and that active maintenance is provided according to the manufacturer's instructions. Failure to maintain the equipment properly may create the potential for contamination.

### **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 and 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](http://www.epa.gov/watersense) for more information.

### **Cross Connection Control Tips:**

Potable (i.e. drinking) water normally flows from the source through the distribution (plumbing) system to the consumer. However, under certain conditions, contaminated water can flow in the reverse direction or "backflow" into the potable water supply. The point at which this occurs is known as a cross connection. Cross connections can either be direct physical piping connections or potential connections such as garden hoses and faucets. Cross connections occur in many places throughout the distribution system. Examples of common cross connections in residences include dishwashers, garbage disposal units, hand-held shower heads, whirlpool tubs, toilets, faucets, and any unit onto which a hose may be attached. Common commercial/industrial cross connections occur at boiler unit, fire sprinkler systems, and auxiliary water supply systems.

Backflow of contaminated water is caused by a pressure differential---either backsiphonage or backpressure. Backsiphonage is the presence of a partial vacuum or lack of pressure in the supply line causing the contents further downstream to be siphoned or sucked back into the supply line. Backsiphonage may occur when the water pressure coming into your home suddenly drops due to a water main break, flushing, or pump failure. Back pressure occurs when there is greater pressure downstream (as caused by pumping, elevation, steam or air pressure) in the distribution system pushing contaminants back into the supply line. Backflow of contaminated water through unprotected cross connections has led to outbreaks of illness. Chemical and microbiological contaminants introduced via backflow may have acute health effects including gastrointestinal illness, organ damage, and neurological effects such as blurred vision, headache, and paresthesia. Backflow is controlled by the use of backflow prevention (BFP) devices. There are numerous types of BFP devices, and applicability depends on the cross connection, water use, and plumbing structure. These devices are installed on the plumbing system or incorporated into the design of the plumbing fixture.

NSF Dahlgren, in accordance with applicable Federal and State laws and regulations, has a program in place to control cross connection and prevent backflow of contaminated water into the potable supply. This program consists of routine surveys to identify and address actual and potential cross connection hazards and annual inspections of backflow prevention devices to ensure proper functioning. As consumers of the potable water, all users play a vital role in protection of the drinking water supply. Here are some tips you can use to control cross connections and prevent backflow:

- Don't leave hoses submerged in buckets, sinks, puddles or other containment units.
- Don't use hoses to unclog blocked toilets, sewers, etc.
- Never install plumbing hardware onto the supply system without obtaining approval of the device(s) from the Waterworks Utility.
- Notify the Waterworks Utility immediately if there is any indication or suspicion that contaminated water has entered the water supply system by backflow.

For more information or to report an issue regarding cross connection control and backflow prevention, contact the NSF Dahlgren Public Works Potable Water Program Manager at (540) 653-2341.

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## Water Quality Information

In order to ensure that tap water is safe to drink, 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 unless otherwise noted. Older data is included since 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. Although the NSF Dahlgren Public Works Potable Water Program tested for many contaminants, only those listed below were found in your water with the exception of the table labeled Undetected Contaminants. 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.

In the tables below 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 the tables.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
<b>Disinfectants &amp; Disinfection By-Products</b>								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	0.8	0.09	1.34	2017	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	4.7	ND	4.7	2017	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	NA	80	9	ND	9	2017	No	By-product of drinking water disinfection
<b>Inorganic Contaminants</b>								
Copper - source water (ppm)	1.3	1.3	0.015	ND	0.015	2017	No	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.94	0.92	0.98	2017	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium (ppm)	2	2	0.0064	ND	0.0064	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
<b>Microbiological Contaminants</b>								
Total Coliform (positive samples/month)	0	1	ND	ND	ND	2017	No	Naturally present in the environment
<b>Radioactive Contaminants</b>								
Alpha emitters (pCi/L)	0	15	6	ND	6	2014	No	Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
<b>Inorganic Contaminants</b>							
Copper - action level at consumer taps (ppm)	1.3	1.3	0.21	2016	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Lead - action level at consumer taps (ppb)	0	15	3	2016	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

## Additional Contaminants

In an effort to ensure the safest water possible the State has required us to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

Contaminants	State MCL	Your Water	Violation	Sample Date	Explanation and Comment
Chloride	250 ppm	3.9 ppm	No	2017	Erosion of natural deposits
Sulfate	250 ppm	13 ppm	No	2017	Erosion of natural deposits

## Undetected Contaminants

The following contaminants were monitored for, but not detected, in your water.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Sample Date	Violation	Typical Source
Lead - source water (ppb)	0	15	ND	2017	No	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate [measured as Nitrogen] (ppm)	10	10	ND	2017	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite [measured as Nitrogen] (ppm)	1	1	ND	2017	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

<b>Important Drinking Water Unit Definitions</b>	
<b>Units</b>	<b>Definition</b>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive
% positive samples/month	% positive samples/month: Percent of samples taken monthly that were positive
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

<b>Important Drinking Water Definitions</b>	
<b>Term</b>	<b>Definition</b>
MCLG	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	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	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	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	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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

Contact Name: Adrian Mood  
 Address: 18329 Thompson Rd, Suite # 226  
 Dahlgren, VA 22448  
 Phone: (540) 653-2341