

DEPARTMENT OF THE NAVY
ENVIRONMENTAL PROTECTION OFFICE (CODE PRNP4)
1 SIMONPIETRI DRIVE
NEWPORT, RI 02841
FOR OFFICIAL BUSINESS



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Naval Station Newport Drinking Water Consumer Confidence Report

Water Quality Report for Calendar Year 2008
For our customers in the towns of
Portsmouth, Middletown, and Newport

Your Water is Safe to Drink

The preparation and distribution of this report to our customers is required by the United States Environmental Protection Agency (EPA). Naval Station (NAVSTA) Newport is committed to providing our customers with high quality drinking water 24 hours a day, 365 days a year. We have established a close working relationship with the Newport Water Department which is our water purveyor, made significant investments in water treatment facilities and water quality monitoring, and major improvements to the distribution systems in order to deliver this quality product to our customers. We have also disseminated water information out to you, our consumers, with informational pamphlets. We are pleased to report this information along with the results of our 2008 water

quality testing directly to you, so that *you will know about your drinking water first hand*. We know that today's consumers are keenly aware of environmental and health issues so we want you to have the most current information about your drinking water.

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Your Drinking Water Source

Here are some simple facts you should know about the water you drink. Aquidneck Island contains seven fresh water ponds that serve as drinking water resources. These include Easton North Pond, Easton South Pond, Lawton Valley Reservoir, Gardiner Pond, Saint Mary's Pond, Paradise Pond and Sisson Pond. There are also two additional drinking water resources located off Aquidneck Island: Nonquit Pond in Tiverton and Watson Reservoir in Little Compton. These ponds and reservoirs are interconnected through a complex network of pipelines and pumping stations. They are located in a basin area totaling almost 19 square miles or 12,000 acres of rural, forested and some developed land. The City of Newport's Water Department has purchased 350 acres of conservation easements within the watersheds to help protect the raw water quality of the reservoirs.

The Navy purchases tap water from the City of Newport and the Portsmouth Water and Fire District. The water is treated at two treatment plants before being distributed to NAVSTA. A majority of the base is provided water by the City of Newport from the Lawton Valley Treatment Plant. Since September 2006, Portsmouth Water and Fire District has supplied water from the Lawton Valley Treatment Plant to the Melville Housing area, Melville Elementary School and Melville Campground. The Lawton Valley Treatment Plant, located in Portsmouth, was built in 1944 and has a 5 million-gallon per day filtration capacity. The remaining portion of the water comes from the Station 1 Newport Treatment Plant. This plant is the primary supplier for Coasters Harbor Island, the Naval Ambulatory Care Center and the Fort Adams public water system. This facility was built in 1991 and has a 9 million-gallon per day filtration capacity. Both treatment plants service over 1,100 Navy connections through a distribution system of more than 62 miles of piping.

NAVSTA conducts daily, weekly, monthly, quarterly and yearly testing to ensure you receive safe, high quality drinking water. The Utilities Branch of Public Works is responsible for operating the water system. The water distribution system and its operation have undergone some improvements over the past year. This includes the award and execution of the 2.5 million dollar Melville Water Project which will use an existing underground reservoir as a replacement to the old Melville Water Tower as well as the replacement of 35 fire hydrants to improve fire capabilities. In addition, the Navy has continued to help with a study that is being done by the City of Newport's consultant to identify if changes can be made to the treatment chemicals throughout the distribution systems. These changes along with our current programs ensure the safety of our system. Lastly, more than \$150,000 was spent on maintenance and water quality testing to ensure the safe and effective operation of the water system.

Facts About Your Water

Drinking water, including bottled water, may be reasonably expected to contain at least some small amounts of certain substances, which the EPA calls "contaminants." The presence of these substances does not necessarily indicate that the water poses a health risk. For example, naturally occurring dissolved minerals are commonly found in well water. More information about the substances found in your water and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791). Additionally, Mr. Antonio Leite, the NAVSTA Water Quality Program Manager, can be reached Monday to Friday from 7:00 AM to 4:30 PM at 401-841-6376, to answer any questions. He can also be reached by email at antonio.leite@navy.mil. The 2008 report and previous reports can be found online at: www.cnic.navy.mil/Newport/Programs/FacilitiesandEnvironmental/EnvironmentalPrograms/WaterQuality/DrinkingWater/CNIC_057275.

Source Water Assessment

The University of Rhode Island (URI), in cooperation with Rhode Island Department of Health (RIDOH) and other state and federal agencies, has assessed the threats to Newport Water's water supply sources. The assessment considered the intensity of development; the presence of businesses that use, store or generate potential contaminants; how easily contaminants may move through the watersheds; and the sampling history of the water. The assessment results are being used to plan source protection efforts in the future.

Our monitoring program continues to ensure that the water delivered to your home is safe and wholesome. However, the assessment found the water sources on Aquidneck Island and in Little Compton and Tiverton are moderately susceptible to contamination. The average ranking for the entire system is based on land use and existing water quality. Because most land in source water areas are privately owned, the focus of the assessments has been on identifying threats from land use so local governments, residents, and water suppliers can take action to protect valuable drinking water supplies. This means that monitoring and protection efforts are especially important to assure continued water quality. The complete Source Water Assessment Report is available from the Newport Water Department or by calling the RIDOH, Office of Drinking Water Quality at (401) 222-6867. The assessments are also made available at the RIDOH website at www.health.ri.gov/environment/dwq/swap/index.php.

2008 Water Quality Report

In 2008, the City of Newport and NAVSTA conducted more than 10,000 water quality tests. More than 120 potential drinking water contaminants were examined. The table below shows all the regulated substances that were detected in our system. The level detected is listed for the United States Navy Fort Adams Public Water System, the United States Navy Naval Station Newport Public Water System and the City of Newport's Public Water System. Not all substances were detected in every system or required to be tested in every system. Some of the data, though representative of the water quality, is more than one year old.

Substance (units)	Highest Allowed by Law	Ideal Goals	Highest Levels Detected				SDWA Violation	Range	Major Sources
			Naval Station Newport	Fort Adams	City of Newport	Portsmouth Water & Fire District (a)			
Inorganic Compounds		(MCL)	(MCLG)						
Antimony (ppb)	6	6	NS	NS	1	NS	No	ND-1	Refinery discharge / Fire Retardants / Solder.
Arsenic (ppb)	10	0	NS	NS	2	NS	No	ND-2	Naturally present in environment.
Barium (ppm)	2	2	NS	NS	0.011	NS	No	0.005-0.011	Erosion of natural deposits.
Copper (ppm) (b)	AL=1.3	1.3	0.09 Zero sites above AL	0.31 Zero sites above AL	0.034 Zero sites above AL	0.046 Zero sites above AL	No	0.005-0.310	Copper piping / Corrosion of plumbing system.
Fluoride (ppm)	4	4	0.98	NS	1.55	NS	No	0.09-1.55	Naturally occurring / Treatment additive
Lead (ppb) (b)	AL=15	0	10 One site above AL	<0.001 Zero sites above AL	5 Two sites above AL	<5 Zero sites above AL	No	<1.0-145	Lead solder / Corrosion of plumbing system.
Nitrate (ppm)	10	10	NS	NS	0.5	NS	No	ND-0.5	Soil runoff from fertilizer use.
Sodium (ppm) (Optional)	n/a	n/a	NS	NS	0.5	NS	No	ND-0.5	Soil runoff from fertilizer use.
Disinfectants		(MRDL)	(MRDLG)						
Chlorine (ppm) (c)	4	4	0.85	1.85	0.97	0.49	No	<0.01-2.60	Water additive used to disinfect.
Chlorine Dioxide (ppb) (d)	800	800	NS	NS	750	NS	No	30-750	Water additive used to disinfect.
Disinfection Byproducts		(MCL)	(MCLG)						
Chlorite (ppm) (e)	1	0.8	NS	NS	0.567	NS	No	<0.010-	By-product of chlorination
Total Trihalomethanes (ppb) (f)	80	n/a	110	NS	89.3	85.7	Yes (f)	30.8-170	By-product of chlorination.
Haloacetic Acids (ppb) (g)	60	n/a	26.9	NS	29.8	18.8	No	11.5-80.1	By-product of chlorination.
Total Organic Carbon (h)	TT	n/a	NS	NS	1.09	NS	No	0.73-1.43	Naturally present in environment.
Microbiology		(MCL)	(MCLG)						
Total Coliform	5%	0%	0%	0%	0%	2.40%	No	0%-2.40%	Naturally present in environment.
Turbidity (NTU) (i)	TT	n/a	NS	NS	0.83	NS	No	ND-0.83	Soil runoff.
Organic Compounds		(MCL)	(MCLG)						
Benzo(a)pyrene (ppt) (j)	200	0	NS	NS	140	NS	No	ND-140	From linings of storage tanks.
Di(2-ethylhexyl)phthalate (ppb) (j)	4	4	NS	NS	4.5	NS	No	ND-4.5	Rubber and chemical factory discharge.
Simazine (ppb) (j)	4	4	NS	NS	0.25	NS	No	ND-0.25	Herbicide runoff.
Radioactive Contaminants									
Combined Radium (pCi/l)	5	0	NS	NS	2.44	NS	No	ND-2.44	Erosion of natural deposits.

Definitions	
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 contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
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.
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.
ppm	parts per million; equivalent of 1 penny in \$10,000 or 1 milligram per liter (mg/L)
ppb	parts per billion; equivalent of 1 penny in \$10,000,000 or 1 microgram per liter (µg/L)
ppt	parts per trillion; equivalent of 1 penny in \$10,000,000,000 or 1 nanogram per liter (ng/L)
AL	(Action Level) The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
pCi/L	picocuries per liter; measure of radioactivity in drinking water.
NS	Not Sampled (Note: Not all contaminants are required to be sampled within each water system)
ND	Not Detected
NTU	(Nephelometric Turbidity Unit) A measure of very small particulate matter in drinking water.
TT	(Treatment Technique) A required process intended to reduce the level of a contaminant in

Explanation	
(a)	Water was purchased from the Portsmouth Water and Fire District for the Melville Housing area, Melville Campground and Melville Elementary School beginning in September 2006.
(b)	Detected level indicates the 90th percentile value of 23 samples taken in the NAVSTA, Newport Water Department and Portsmouth Fire and Water Districts system's and 8 samples taken in the Fort Adams system. High-risk locations are sampled and tested every three years. Tap water typically is 0.05 ppm for copper and ND for lead. 90% of the samples taken must be at or below the Action Level to be in compliance.
(c)	Compliance is based on an average of several distribution system samples taken every quarter. Result is the highest quarterly average.
(d)	Compliance is based on sample results taken within the distribution system after any treatment plant effluent result exceeds 800 ppb. No samples were above limit.
(e)	Compliance is based on an average of several distribution system samples taken every month. Result is the highest monthly average.
(f)	Compliance is based on an average of five distribution system samples taken every quarter for four consecutive quarters. Result is highest of the four quarter averages. NAVSTA is not required to monitor Total Trihalomethanes. Newport was out of compliance for the 4th quarter of 2008. Portsmouth Water and Fire District was out of compliance for all of 2008. Additional information can be found on the last page of this report.
(g)	Compliance is based on an average of five distribution system samples taken every quarter for four consecutive quarters. City of Newport uses eight samples.
(h)	Total Organic Carbon (TOC) is calculated by dividing the percent of TOC removed through the treatment plant by the percent of TOC that is required to be removed at each plant. If the quarterly average is below 1.0 it is a violation.
(i)	The turbidity level (cloudiness of water) of the filtered water can be greater than or equal to 0.3 NTU in only 5% of the measurements taken each month and shall not exceed 1.0 NTU at any time. Turbidity is only sampled at the City of Newport's drinking water treatment plants. 0.83 NTU was the highest single turbidity measurement recorded.
(j)	Monitored at raw water supply reservoirs prior to treatment by the City of Newport.

Information on Substances Found in Your Water

The sources of drinking water, both tap and bottled, include rivers, lakes, streams, ponds, reservoirs, and wells. As water travels over the surface of the land or through the ground to these areas, it dissolves naturally occurring minerals, radioactive material, and, in some cases, it can pick up substances resulting from the presence of animals or human activity. Other contaminants, including volatile organic chemicals, which are by-products of industrial processes, can come from gas stations or urban storm water runoff. We have included the health effects information for any contaminant near the Maximum Contaminant Level (MCL) and any unusual contaminants.

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 Navy 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 www.epa.gov/safewater/lead.

Total Trihalomethanes (TTHMs): Many water systems treat water with a chemical disinfectant, such as chlorine, in order to inactivate pathogens that cause disease. While disinfectants are effective in controlling many harmful microorganisms, they react with organic or inorganic matter in the water to form disinfectant byproducts (DBPs), some of which pose health risks at certain levels. Some people who drink water containing TTHMs in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. The public health benefits of chlorine disinfection practices are significant and well recognized. Consequently, one of the most complex questions facing water supply professionals is how to reduce risks from disinfectants and DBPs while providing increased protection against microbial contaminants.

The Navy purchases water from the Newport Water Department (Newport Water), which owns and operates the Lawton Valley Water Treatment Plant and Station 1 Water Treatment Plant. High levels of organics in water, the use of too much chlorine in the treatment process, and the low turnover of water contribute to elevated TTHM levels. The Navy's water system is an endpoint of the Newport Water system. The drinking water purchased from Newport Water often contains levels of TTHM near or above the MCL at the point of entry into the Navy's water system. To help reduce TTHM levels, the Navy has reduced the amount of chlorine added to the water while still ensuring reliable bacteriological control. Unfortunately, these internal Navy improvements can not lower the level of TTHMs present in the water that is received from Newport Water. The Navy, in cooperation with Newport Water and the Portsmouth Water and Fire District (PWFD) are working to improve the treatment and distribution processes in order to further reduce TTHMs levels. Newport Water completed a study that examined treatment methods to lower and/or eliminate TTHMs in the Newport Water, Navy and PWFD water systems. The study concluded it may be possible to change the method of disinfection in order to lower TTHMs. Newport Water is proceeding with the engineering testing and design for a new Lawton Valley treatment plant and improvements to Station 1 treatment plant. The improvements will address the regulatory requirements of the EPA's Stage 2 Disinfectants/Disinfection Byproduct Rule, primarily the levels of Total Trihalomethanes (TTHM). The City of Newport has entered into a Consent Agreement with the Rhode Island Department of Health committing to have the new treatment plants in operation by December 31, 2014. For more information, visit the city's website at: www.cityofnewport.com/departments/utilities/water/home.cfm.

Total Coliform: Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Health Effects Note: 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 / Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).