



NAVAL STATION GREAT LAKES 2021 CONSUMER CONFIDENCE REPORT

**THERE WERE
NO WATER QUALITY
VIOLATIONS
RECORDED FOR
THE NAVAL STATION
GREAT LAKES
WATER SYSTEM
DURING 2020,
HOWEVER THERE
WAS ONE MONITOR-
ING VIOLATION.**

See back page for more information.

Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) Public Works Department Great Lakes is pleased to present to you the annual consumer confidence report (CCR). This report is intended to provide you with important information about your drinking water and the efforts made by the water system staff to provide safe drinking water. The data included in this report covers the period from January 1, 2020 through December 31, 2020.

The Public Works Department Great Lakes team is committed to providing our customers with the highest quality drinking water possible. In fact, we have never required an exemption or variance from the drinking water regulations set by the State of Illinois or the United States Environmental Protection Agency (USEPA).

Sources of Drinking Water

The Great Lakes Water Treatment Facility draws its water from Lake Michigan, a surface water source.

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.

USEPA on 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Contact Us!

Water Plant Supervisor
(847) 688-2121 x137

Utilities Director
(847) 688-2121 x130

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 guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Regulated Contaminants Detected in 2020

	Contaminant (unit of measurement)	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Violation?	Likely Source of Contamination
INORGANIC CONTAMINANTS	Nitrate(as Nitrogen) (ppm) Date Sampled 2020	0.47	0.47-0.47	10	10	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
	Barium (ppm) Date Sampled 2020	0.018	0.018- 0.018	2	2	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	Fluoride (ppm) Date Sampled 2020	0.7 (rounded)	0.675 - 0.675	4	4	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Sodium (ppm) Date Sampled 2020	8 (rounded)	7.5-7.5	n/a	n/a	NO	Erosion of naturally occurring deposits; used in water softener regeneration
DISINFECTANTS & DISINFECTION BY-PRODUCTS	Chlorine (ppm) Date Sampled 2020	1.2	1-1.3	MRDLG = 4	MRDL = 4	NO	Water additive used to control microbes
	Total Haloacetic Acids (HAA5) (ppb) Date Sampled 2020	20 (avg of samples)	10.5-22.9	No goal for the total	60	NO	By-product of drinking water disinfection
	Total Trihalomethanes (THMs) (ppb) Date Sampled 2020	37 (avg of samples)	22.2-46.6	No goal for the total	80	NO	By-product of drinking water disinfection
LEAD and COPPER	Contaminant (unit of measurement)	Result at 90th Percentile	# of Sample Sites Over Action Level	MCLG	Action Level	Violation?	Likely Source of Contamination
	Lead (ppb) Date Sampled 2020	1.2	0	0	15	NO	Corrosion of household plumbing systems; erosion of natural deposits
	Copper (ppm) Date Sampled 2020	0.13	0	1.3	1.3	NO	Corrosion of household plumbing systems; leaching from wood preservation; erosion of natural deposits
TURBIDITY		Limit (Treatment Technique)	Level Detected	Violation?	Likely Source of Contamination	TOTAL ORGANIC CARBON The percentage of Total Organic Carbon (TOC) removal was measured each month. We met all TOC removal requirements set by IEPA.	
	Highest Single Measurement	1 NTU	0.216 NTU	NO	Soil runoff		
	Lowest Monthly % Meeting Limit	0.3 NTU	100%	NO	Soil runoff		
Surface Water Treatment Rule Violation Table	Violation Type	Violation Began	Violation End	Explanation			
	Monitoring, RTN/RPT Major (SWTR-Filters)	07/01/2020	07/31/2020	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated. *See back page for further explanation.			
	The surface water treatment rule seeks to prevent waterborne diseases caused by viruses, Legionella, and Giardia lamblia. The Rule requires that water systems filter and disinfect water from surface water sources to reduce the occurrence of unsafe levels of these microbes.						

DEFINITIONS: The tables in this CCR contain scientific terms and measures, some of which may require additional explanation.

(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.

(MRDL) Maximum Residual Disinfectant Level: The highest level of 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.

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

(ALG) Action Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

(TT) Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

n/a: Not applicable.

Level 1 Assessment: A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

Level 2 Assessment: A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in the water system on multiple occasions.

Turbidity: A measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

Avg: Regulatory compliance with some MCLs are based on a running annual average of monthly samples.

Unit of Measurement Definitions:

ppm: Parts per million, or milligrams per liter (or one ounce in 7,350 gallons of water).

ppb: Parts per billion, or micrograms per liter (or one ounce in 7,350,000 gallons of water).

ppt: Parts per trillion, or nanograms per liter (or one ounce in 7,350,000,000 gallons of water)

NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.

mrem: Millirems per year. A measure of radiation absorbed by the body.

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

What are per- and polyfluoroalkyl substances (PFAS) 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 US, since the 1940s. 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 at airfields and in industrial fire suppression processes because they rapidly extinguish fires, saving lives and protecting property. 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?

There is currently no established federal water quality regulation for any PFAS compounds. In May 2016, the EPA established a health advisory (HA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS.

Out of an abundance of caution for your safety, the DoDs PFAS testing and response go beyond EPA Safe Drinking Water Act requirements. In 2020 the DoD promulgated a policy to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every three years.

The EPA's health advisory states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 ppt, water systems should quickly undertake additional sampling to assess the level, scope, and localized source of contamination to inform next steps.

Has Naval Station Great Lakes tested its water for PFAS?

Yes, in 2020 samples were collected from the finished water at the Treatment Plant and PFAS was detected in the water, but below the EPA health advisory (HA). We are informing you that 2 of the 18 PFAS compounds covered by the sampling method were detected above the method reporting limit (MRL). PFOA and PFOS were below the EPA HA level. The results are provided in the table below. As PFOA and PFOS were below the EPA HA, there is no immediate cause for concern, but we will continue to monitor the drinking water closely to ensure that remains the case. In accordance with DoD policy, Naval Station

PFAS Analyte	Unit of Measurement	Health Advisory Level	MRL	Apr 2020 Sample	Sept 2020 Sample	Oct 2020 Sample
Perfluorooctanoic acid (PFOA)	ppt	70	2.0	2.3	<2.0	<2.0
Perfluorooctanesulfonic acid (PFOS)	ppt	70	2.0	2.4	2.1	<2.0

Great Lakes will collect quarterly samples for PFAS for one year and then every two years thereafter as long as the results are below the MRL.

Possible Source Water Contaminants

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 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.

Information on Lead in Drinking Water

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 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Source Water Assessment Summary

We want our valued customers to be informed about their water quality. If you would like to learn more, please reach out to the Public Works Department (PWD) for any questions, comments or concerns you may have. Contact information for the water supply can be found on the first page of this report. The source water assessment for our supply has been completed by the Illinois EPA (IEPA). To view a summary version of the completed Source Water Assessment, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the IEPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Naval Station Great Lakes' susceptibility is defined as the likelihood for the source water of a public water system to be contaminated at concentrations that would pose a concern. The IEPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection, only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois. NSGL's intake has a low sensitivity and therefore greater protection from shoreline contaminants due to mixing and dilution. Although there are no potential sources within NSGL's critical assessment zone, there are several within the immediate source water area. Also, the combination of the land use, the proximity of storm sewer outfalls, Pettibone Creek and sewage pumping stations add to the susceptibility of our intake. It should be stressed however, that the treatment employed by the water plant and the staff is protective of our consumers, as noted by our facility's finished water history.

Monitoring Violation Annual Notice

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Great Lakes Naval Training Station 0975227

Our water system violated drinking water standards over the past year. Even though this was not an emergency, as our customers, you have a right to know what happened and what we did to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 7/1/2020 – 7/31/2020 we did not complete all monitoring for chlorine and therefore cannot be sure of the quality of our drinking water during that time.

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminant(s) we did not properly test for during the last year, how often we are supposed to sample for this contaminant, how many samples we were supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.

Contaminant	Required Sampling Frequency	Number of Samples Taken	When Samples Should Have Been Taken	When Samples Were or Will Be Taken
Chlorine	Continuously sampled and recorded every 15 minutes	1188	7/1/2020 – 7/31/2020	Continuously sampled and recorded every 15 minutes except not recorded during equipment failure

What happened? What is being done?

We failed to record chlorine levels on our data logging computer for greater than 5 days during the period in question. We have since repaired the failed equipment and have taken and recorded the required samples, as described in the second column of the table above. The results show that your water meets all drinking water standards.

For more information, please contact
joshua.s.winans@navy.mil or hallie.graziano@navy.mil

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Naval Station Great Lakes	Water System ID	0975227	Date Distributed	June 2021
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The notice published to the left contains mandatory language required by the IEPA for a monitoring violation, however it does not fully explain the situation that occurred and reason for the violation.

Background: The Great Lakes Water Plant has several pieces of hardware that are used to continuously measure and analyze various properties of our raw and finished water. Measurements from the hardware are logged electronically on a computer, which is required by the IEPA. As part of their normal duties, in addition to reviewing the data logged by the computer, the operators also manually analyze the water for various compounds.

What happened? During the time period in question, there was an equipment failure that prevented some of the data from being recorded. And although the water plant operators were analyzing manual samples as well as continuously monitoring the data from the hardware, the data was not recorded. This failure to record the data on the computer resulted in the monitoring violation. **At no time during the event was the water unsafe.** The situation was resolved when the failed piece of hardware was repaired. We are happy to report that a contract has been awarded to upgrade the outdated equipment with new, and connect to a redundant computer system, which should happen this fiscal year.

Unregulated Contaminant Monitoring Rule 4 (UCMR4)

As part of the 1996 Safe Drinking Water Act amendments, we were required to sample our water for 30 additional contaminants during 2019 and 2020. Most of the 30 contaminants belonging to UCMR 4 are currently unregulated and none of them were detected in our water. The remaining contaminants sampled are known as disinfection by-products and were expected to be detected because they occur normally in water systems that use chlorine as their disinfectant. Although these additional by-products were detected, the results were well below the MCL for disinfection by-products. These sample results will help the USEPA determine if the contaminants should be regulated in the future. Sample results can be viewed by contacting the Water Supervisor or Utilities Director using the information on page one of this report.



The picture at left shows some of the equipment used to monitor and analyze the water in the treatment plant. This equipment measures chlorine, turbidity, pH and temperature in both the raw and finished water.