

2024 Annual Drinking Water Quality Report

Harkers Island Water System

PWSID# 04-16-025

We are pleased to present to you this year's Annual Drinking Water Quality Report for the Harkers Island (HI) Water System. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and are providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact Tara Alderman at 252-727-2233 or by email at taraa@ccemc.com. We want our valued customers to be informed about their water utility. If you want to learn more, please visit our website at: <https://www.ccemc.com/HIWater> or attend any of our regularly scheduled meetings, which are held the third Tuesday, every other month (Feb, Apr, Jun, Aug, Oct, Dec) at 6 p.m. located at 849 Island Rd, Harkers Island.**

What EPA Wants You to Know

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 Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. This includes 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/CDC 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).

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 human activity.

Source water can contain various contaminants, including:

- Microbial contaminants (viruses and bacteria) from sewage, septic systems, livestock, and wildlife.
- Inorganic contaminants (salts and metals) from natural sources, stormwater runoff, wastewater discharges, oil and gas production, mining, and farming.
- Pesticides and herbicides from agriculture, stormwater runoff, and residential use.
- Organic chemical contaminants (synthetic and volatile organic chemicals) from industrial processes, petroleum production, gas stations, stormwater runoff, and septic systems.
- Radioactive contaminants from natural sources, oil and gas production, and mining activities.

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.

When You Turn on Your Tap, Consider the Source

The water that is used by the HI Water System is groundwater and is located at two well sites on Harkers Island. At the treatment plant chlorine gas is used as a disinfectant and an oxidant to remove impurities from the water.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports, which provides maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for HI Water System was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well # 1	Moderate	September 10, 2020
Well #2	Lower	September 10, 2020

The complete SWAP Assessment report for the HI Water System may be viewed on the Web at: <https://www.ncwater.org/?page=600&pwsid=0416025>. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this website may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@deq.nc.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report, please contact the Source Water Assessment staff by phone at (919) 707-9098.

It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, it only indicates the system’s potential to become contaminated by PCSs in the assessment area.

THE HARKERS ISLAND WATER SYSTEM HAD NO VIOLATIONS. We are proud that your drinking water meets or exceeds all Federal and State requirements.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2024.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Important Drinking Water Definitions:

- *Not-Applicable (N/A) – Information not applicable or not required for that particular water system or for that particular rule.*
- *Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.*
- *Parts per million (ppm) or Milligrams per liter (mg/L) - One part per million corresponds to one minute in two years or a single penny in \$10,000.*
- *Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.*
- *Variances and Exceptions – State or EPA permission not to meet an MCL or Treatment Technique under certain conditions.*
- *Action Level (AL) - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.*
- *Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.*
- *Maximum Residual Disinfection Level (MRDL) – 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.*
- *Maximum Residual Disinfection 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 contaminants.*
- *Locational Running Annual Average (LRAA) – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.*
- *Running Annual Average (RAA) – The average of sample analytical results for samples taken during the previous four calendar quarters.*
- *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 has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.*
- *Maximum Contaminant Level (MCL) - 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.*
- *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.*

Tables of Detected Contaminants

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water (90th Percentile)	Number of sites found above the AL	Range Low High	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	6/06/2023	0.213	0	.213 - .22	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	6/06/2023	5	0	5 - 5.5	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

The table above summarizes our most recent lead and copper tap sampling data. If you would like to review the complete lead tap sampling data, please email us at taraa@ccemc.com.

We have been working to identify service line materials throughout the water system and prepared an inventory of all service lines in our water system. For more information on this inventory, please email taraa@ccemc.com.

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 HI Water System is responsible for providing high quality drinking water and removing lead utility 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 steps to reduce your family's risk by identifying and removing lead materials within your home plumbing. Before drinking tap water, flush your pipes for several minutes by running your tap. 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 Tara Alderman at 252-727-2233. 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>.

Total Trihalomethanes (TTHM) and Haloacetic Acids (five) (HAA5)

Disinfection Byproduct	Year Sampled	MCL Violation Y/N	Your Water (highest LRAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb)					N/A	80	Byproduct of drinking water disinfection
B01	2024	N	13	13 13	N/A	80	
B02	2024	N	13	13 13	N/A	80	
HAA5 (ppb)					N/A	60	Byproduct of drinking water disinfection
B01	2024	N	9	9 9	N/A	60	
B02	2024	N	4	4 4	N/A	60	

TTHM: Some people who drink water containing trihalomethanes 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.

HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Disinfectant Residuals Summary

	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range		MRDLG	MRDL	Likely Source of Contamination
				Low	High			
Chlorine (ppm)	2024	No	0.21	0.00	3.1	4	4.0	Water additive used to control microbes

Fluoride

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	7/13/2022	N	0.39	N/A		4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Please note that the HI Water System is non-fluoridated, meaning fluoride is not added to the water supply by water system personnel. However, even though it is not actively added, organic fluoride can enter groundwater as it interacts with rocks and soil where organic fluoridate naturally exists. The presence of fluoride in the HI Water System's water supply comes from natural sources. At low levels, fluoride can help prevent cavities and promote good oral health. The U.S. Environmental Protection Agency's drinking water standard for fluoride is 4.0 mg/L (milligrams per liter). HI Water System's Fluoride level is below the mg/L as shown in the table above.

Microbiological Contaminants in the Distribution System -2 per month required.

Contaminant (units)		MCL Violation Y/N	Number of Positive/Present Samples	MCLG	MCL	Likely Source of Contamination
<i>E. coli</i> (presence or absence)		No	0	0	Routine and repeat samples are total coliform-positive and either is <i>E. coli</i> -positive, or system fails to take repeat samples following <i>E. coli</i> -positive routine sample or system fails to analyze total coliform-positive repeat sample for <i>E. coli</i> Note: If either an original routine sample and/or its repeat samples(s) are <i>E. coli</i> positive, a Tier 1 violation exists.	Human and animal fecal waste

Required Assessments not due to an *E. Coli* MCL Violation

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. During the past year we were required to conduct a Level 1 assessment. A Level 1 assessment was completed. In addition, we were required to take no corrective actions and we completed several of these actions. The following corrective actions were completed: Well #2 was removed from service and raw water line was isolated from the system. Chlorine residual was increased in both the ground storage tank and system. Distribution lines were manually flushed. Well #2 was inspected and rehabilitated, reassessed and retested and placed back into service. During the past year No Level 2 assessments were required to be completed for our water system. No Level 2 assessments were completed. In addition, we were required to take No corrective actions and we completed None of these actions.

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
Sodium (ppm)	7/13/2022	80.1	N/A	100
pH	7/13/2022	7.8	N/A	6.5 to 8.5
PFOA	2/29/2024	ND	N/A	4.0 ppt
PFOS	2/29/2024	ND	N/A	4.0 ppt
GenX	2/29/2024	ND	N/A	10 ppt
PFBS	2/29/2024	ND	N/A	10 ppt
PFNA	2/29/2024	ND	N/A	10 ppt
PFHxS	2/29/2024	ND	N/A	10 ppt

In April 2024, the Environmental Protection Agency's (EPA's) PFAS National Primary Drinking Water Regulation established national standards and treatment methods to reduce exposure to six PFAS chemicals. PFAS are a category of manufactured chemicals that have been used in industry and consumer products since the 1940s. They are found in nonstick cookware, waterproof clothing, firefighting foam, and certain manufacturing processes. PFAS breaks down very slowly in the environment. The EPA's standards require initial monitoring within three years following the regulation's promulgation. HI Water System proactively participated in the NC Public Water Supply Section's ongoing voluntary PFAS sampling efforts. The results for the samples collected indicated no detections of the compounds as shown in the above table. More information can be found at <https://www.epa.gov/pfas>