

# 2022 CONSUMER CONFIDENCE REPORT - DRINKING WATER INFORMATION

## CONGRATULATIONS! WE ARE ONCE AGAIN PLEASED TO REPORT THAT YOUR DRINKING WATER FULLY COMPLIED WITH ALL STATE & FEDERAL DRINKING WATER HEALTH REGULATIONS IN 2022.

This report includes important information about your drinking water, what it contains and the treatment processes used to make it safe to drink. Since its incorporation in 1921, the Kennebunk, Kennebunkport & Wells Water District (KK&W Water District) has considered water quality of primary importance. We vigilantly monitor and safeguard our water supplies and our highly trained and State-licensed Water System Operators strive to provide our customers with drinking water that not only tastes good, but also surpasses State and Federal standards for safety and quality. Not only did your drinking water continue to meet all water quality requirements in 2022 but it still cost less than a penny per gallon (based on 1,200 cubic feet). Now that's refreshing.

### SOURCE WATER ASSESSMENT

The sources of drinking water include rivers, lakes, ponds and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from human or animal activity. The Maine Drinking Water Program (DWP) has evaluated all public water supplies as part of the Source Water Assessment Program (SWAP). The assessments include geology, hydrology, land uses, water testing information, and the extent of land ownership or protection by local ordinance to see how likely our drinking water source is to being contaminated by human activities in the future. Assessment results are available at town/city offices and public water systems.

### HEALTH INFORMATION

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.** 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, can also come from gas stations, urban runoff and septic systems.
- **Radioactive contaminants**, that can be naturally-occurring or be the result of oil and gas production and mining activities.

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/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 (1-800-426-4791) or at the following link: <https://www.epa.gov/ccr/forms/contact-us-about-consumer-confidence-reports>.

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 KK&W Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in private plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for up 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 the following link: <http://www.epa.gov/safewater/lead>.

### SOURCE WATER INFORMATION

The KK&W Water District utilizes both high quality surface water and groundwater as supply sources. Surface water is obtained exclusively from Branch Brook, a largely spring-fed, naturally flowing water body that originates in Sanford and forms the town line between Kennebunk and Wells. In addition to Branch Brook, groundwater is obtained from four naturally developed gravel well sites (two wells at each site for a total of 8 wells). The KK&W Water District also maintains mutual-aid system interconnection agreements with the Biddeford-Saco Division of the Maine Water Company and the York Water District.

Protection of the Branch Brook watershed and well sites remains a top priority. In addition to owning a significant portion of the watershed, the KK&W Water District continues to purchase property, seek conservation easements and work with local officials/coalitions to strengthen ordinances within the watershed and wellhead protection zones. If you witness illegal or suspicious activity within the Branch Brook watershed or at the well sites, please report it immediately by calling us at 207-985-3385 or the local Police Department at 911.

### WATER QUALITY MONITORING/REPORTING

**VIOLATIONS: No water quality violations were issued in 2022,**

**WAIVER INFORMATION** In 2020, our system was granted a 'Synthetic Organics Waiver.' This is a three year exemption from the monitoring/reporting requirements for the following industrial chemicals: *TOXAPHENE/CHLORDANE/PCB, HERBICIDES, CARBAMATE PESTICIDES* and *SEMIVOLATILE ORGANICS*. This waiver was granted due to the absence of these potential sources of contamination within a half mile radius of the water supply sources.

### TREATMENT PROCESS

**SURFACE WATER** from Branch Brook flows into our Filtration Plant where multiple processes are used to remove particles and microorganisms. The first process is **COAGULATION**, where chemicals (primarily food-grade alum) are added, causing particles to destabilize and attract to each other. Then **FLOCCULATION** occurs in mixing chambers where the small particles combine into larger particles called floc. Next, **CLARIFICATION** occurs in the settling basins where gravity causes the heavier floc particles settle out. Chlorine and Sodium Hypochlorite were used for **PRIMARY DISINFECTION** before filtration. The **FILTRATION** process follows where clarified water passes through dual media filters (sand and anthracite) to remove any remaining floc particles. Finished water chemistry is then optimized for **CORROSION CONTROL & SEQUESTRATION** using ortho-poly phosphates and **SECONDARY DISINFECTION** with chloramines prior to being pumped into our distribution system where over 207 miles of transmission and distribution system water mains and eight storage tanks distribute water to our customers.

**GROUNDWATER** from our Plant and Harseckett Road wells is pumped directly to our Pumping, Treatment and Recycling (PTR) Facility where the water chemistry is optimized for **CORROSION CONTROL & SEQUESTRATION** with ortho-poly phosphates and **SECONDARY DISINFECTION** with chloramines (chlorine gas combined with ammonia) before being repumped directly into the distribution system at the same entry point as surface water treated at the Filtration Plant. Groundwater from our Merrilland River well is pumped to the Filtration Plant and passed through our dual media rapid sand filters to remove iron and manganese before being sent to the PTR and repumped into the distribution system. Groundwater from our Kennebunk River wells is pumped through Granular Activated Carbon (GAC) and Ionic Resin pressure filters at our PFAS Removal Facility to remove PFAS contaminants and then onto the Kimball Lane Treatment Facility where the water chemistry is optimized using the same chemicals as the PTR (chloramines are created by combining sodium hypochlorite with ammonia) before entering the distribution system.

## 2022 ANNUAL WATER QUALITY TEST RESULTS FOR PWSID# ME0090760

Contaminant	Date	Result	MCL	MCLG	Source/Comments
<i>Microbiological</i>					
COLIFORM (TCR)(1)	2022	0 pos	1 pos or 5%	0 pos	Naturally present in the environment.
<i>Inorganics</i>					
ARSENIC (6)	1/24/2022	6.1 ppb	10 ppb	0 ppb	Erosion of natural deposits. Runoff from orchards, glass and electronics production wastes.
FLUORIDE (3)	1/24/2022	0.32 ppm	4 ppm	4 ppm	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
<i>Radionuclides</i>					
RADIUM 226	7/20/2022	0.3 pCi/l	5 pCi/l	0 pCi/l	Erosion of natural deposits.
<i>Lead and Copper</i>					
COPPER 90TH% VALUE (4)	1/1/19 - 12/31/21	0.364 ppm	AL=1.3ppm	1.3 ppm	Corrosion of household plumbing systems.
<i>Disinfectants and Disinfection By-Products</i>					
<b>Biddeford Pool Fire Station</b>		12.9 ppb	60 ppb	0 ppb	
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2022)	Range (8.2-17.2ppb)			By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2022)	11.7 ppb	80 ppb	0 ppb	
		Range (5.6-16.1 ppb)			By-product of drinking water chlorination.
<b>Crow Hill Tank</b>		17.6 ppb	60 ppb	0 ppb	
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2022)	Range (12.2-24.0 ppb)			By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2022)	15.5 ppb	80 ppb	0 ppb	
		Range (8.4-25.0 ppb)			By-product of drinking water chlorination.
<b>Ogunquit Town Hall</b>		18.2 ppb	60 ppb	0 ppb	
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2022)	Range (15.0-21.2 ppb)			By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2022)	14.4 ppb	80 ppb	0 ppb	
		Range (12.6-15.8 ppb)			By-product of drinking water chlorination.
<b>Wells Library</b>		22.9 ppb	60 ppb	0 ppb	
TOTAL HALOACETIC ACIDS (HAA5) (9)	LRAA (2022)	Range (3.4-54.0 ppb)			By-product of drinking water chlorination.
TOTAL TRIHALOMETHANE (TTHM) (9)	LRAA (2022)	11.6 ppb	80 ppb	0 ppb	
		Range (0.0-22.0 ppb)			By-product of drinking water chlorination.
CHLORINE RESIDUAL	7/30/2022	1.6ppm (Plant)	MRDL = 4ppm	MRDLG =	
(lowest levels recorded)	7/18/2022	0.10ppm (PTR)		4ppm	
	7/10/2022	0.28ppm (Kimball Ln)			
		(Range : 0.10-3.9ppm)			
TURBIDITY LEVELS	6/12/2022	0.13 ntu (Plant)	0.3 ntu in 95% of samples		By-product of drinking water chlorination.
(highest levels recorded)	7/25/2022	0.33 ntu (PTR)	1.0 ntu maximum limit		Soil runoff.
	2/16/2022	0.14 ntu (Kimball Ln)			

**All other regulated drinking water contaminants were below detection levels.**

### Definitions:

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health.

**Running Annual Average (RAA):** 12 month rolling average of all monthly or quarterly samples at all locations. Calculation of the RAA may contain data from the previous year.

**Locational Running Annual Average (LRAA):** 12 month rolling average of all monthly or quarterly samples at specific locations. Calculation of the LRAA may contain data from the previous year.

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

**Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a Disinfectant is necessary for the control of microbial contaminants.

**Maximum Residual Disinfectant 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.

**Units:** ppm = parts per million or milligrams per liter (mg/L). pCi/L = picocuries per liter (a measure of radioactivity). MFL = million fibers per liter. ppb = parts per billion or micrograms per liter (ug/L). pos = positive samples.

### Notes:

- Total Coliform Bacteria: Reported as the highest monthly number of positive samples, for water systems that take less than 40 samples per month.
- E. Coli: E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these waters can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.
- Fluoride: For those systems that fluoridate, fluoride levels must be maintained between 0.5 to 1.2 ppm. The optimum level is 0.7 ppm.
- Lead/Copper: Action Levels (AL) are measured at the consumer's tap. 90% of the tests must be equal to or below the action level.
- Nitrate: Drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should seek advice from your health care provider.
- Arsenic: While your drinking water may meet EPA's standards for Arsenic, if it contains between 5 and 10 ppb you should know that the standard balances the current understanding of arsenic's possible health effects against the cost of removing it 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. Quarterly compliance is based on RAA.
- Gross Alpha: Action level over 5 pCi/L requires testing for Radium 226 and 228. Action level over 15 pCi/L requires testing for Uranium. Compliance is based on Gross Alpha results minus Uranium results = Net Gross Alpha.
- Radon: The State of Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4,000 pCi/L, effective 1/1/07. If Radon exceeds the MEG in water, treatment is recommended. It is also advisable to test indoor air for Radon.
- TTHM/HAA5: Total Trihalomethanes and Haloacetic Acids (TTHM and HAA5) are formed as a by-product of drinking water chlorination. This chemical reaction occurs when chlorine combines with naturally occurring organic matter in water. Compliance is based on running annual average.
- PFAS: The degree of risk depends on the level of chemicals and the duration of exposure. Laboratory studies of animals exposed to high doses of PFAS have shown numerous negative effects such as issues with reproduction, growth, development, thyroid function, immune system, neurology, as well as injury to the liver. Research is still relatively new, and more needs to be done to fully assess exposure effects on the human body.