2019 Annual Water Quality Report

SUMMARY

In 2019 the Kennebec Water District (KWD) produced more than **1 billion gallons** of clean, safe drinking water for more than 8,700 customers in the greater Waterville area. Water quality testing demonstrated that the water supplied by the KWD **meets or exceeds all applicable water quality standards**.

INTRODUCTION

The KWD, first water district in the United States, was chartered by the State of Maine Legislature in 1899. The KWD serves customers in Waterville, Winslow, Fairfield, Vassalboro, and Benton and is a wholesale supplier of water to the Town of Oakland. The KWD's water transmission and distribution systems include over 171 miles of water mains and provides fire protection service through 637 public hydrants. The KWD is governed by a 10-member Board of Trustees. The trustees and employees are dedicated to reliably supplying safe drinking water to more than 8,700 customers every day.

WATER QUALITY

China Lake has served as the KWD's primary source of water since 1905. China Lake has 6.1 square miles of surface area within 32 square miles of watershed. The estimated storage capacity of the lake is 31 billion gallons. KWD withdraws approximately one billion gallons annually.

To ensure customers receive high-quality water, the KWD routinely tests the quality of water in China Lake, at the water treatment plant, and at numerous locations within the water delivery system. Testing is conducted in the KWD's state accredited laboratory as well as in independent, state accredited laboratories.

The 2019 testing results indicate that the KWD's water continuously meets or exceeds all state and federal water quality requirements.

Fluoride in Drinking Water: As requested by the voters in the municipalities served by the KWD, fluoride is added to the water. The federal Center for Disease Control (CDC) states that a proper amount of fluoride from infancy through old age helps prevent or reduce tooth decay.

Parents with infant children should be aware that most infant formula contains low levels of fluoride. Regularly mixing powdered or liquid infant formula concentrate with fluoridated water may increase the chance of a child developing the faint white markings of mild fluorosis on their teeth. The

risk is reduced by using low fluoride water for formula all or most of the time. For more information visit the CDC's website at: https://www.cdc.gov/fluoridation/faqs/infant-formula.html.

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 lead service lines and household plumbing. While the KWD provides high quality drinking water, plumbing components in your home likely contain material with lead, such as solder and fittings and fixtures with brass. These materials can leach lead into your water. This occurs most frequently when the water has been stagnant in the household plumbing for several hours.

You can reduce the risk of lead exposure by flushing your faucet for 30 seconds before using water for drinking and 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 at 1-800-426-4791 or online at: http://www.epa.gov/safewater/lead.

WATER SUPPLY / SOURCE INFORMATION

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 included 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. The KWD Source Water Assessment is available for public viewing at the KWD office at 6 Cool Street. For more information about the SWAP, please contact the DWP at (207)287-2070 or www.medwp.com.

As a surface water body, China Lake is susceptible to pollution and contamination from human activities and natural sources within the watershed. In the early 1900's, the KWD purchased nearly all of the shoreline around the West Basin (visible as you pass through the village area of East Vassalboro) to protect the water quality in China Lake. The KWD also planted thousands of trees to reduce the risk of soil erosion entering the lake.

The East Basin shoreline (from China Village area south to the South China Village area) is mostly privately owned. Consequently, hundreds of homes and camps, along with miles of roadways, have been developed within close proximity of the shoreline. Land development is a significant source of nutrient pollution, which leads to algal blooms and other water quality issues. The KWD partners with the towns of China and Vassalboro, the China Region Lakes Alliance, the China Lake Association to improve China Lake water quality.

OTHER IMPORTANT INFORMATION

The KWD is governed by a 10-member elected board. Each member is elected for a three-year term from one of the five municipalities served by the KWD.

Kennebec Water District Board of Trustees (2019)

Name (Position)	Municipality
Jeff Earickson (President)	Waterville
Mark McCluskey (Vice President)	Fairfield
J. Michael Talbot (Treasurer)	Waterville
Alex Wild (Assistant Treasurer)	Waterville
Amy Stabins (Clerk)	Winslow
Karl Dornish	Winslow
Denise Bruesewitz	Waterville
Albert Hodsdon	Fairfield
Frank Richards	Vassalboro
Allan Fuller	Benton

Board of Trustee meetings are generally held on the first and third Thursday of each month at 7:30 a.m. at 6 Cool Street in Waterville. These meetings are open to the public.

Water Test Results

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): A 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): A 12 month rolling average of all monthly or quarterly samples at specific sampling locations. Calculation of the RAA 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 addition of a disinfectant is necessary for 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.
PPM: parts per million or Milligrams per liter (mg/L)
PPB: parts per billion or micrograms per liter (µg/L)
PPT: parts per trillion or nanograms per liter (ng/L)
pCi/L: picocuries per liter (a measure of radioactivity).
Pos: Positive Sample
MFL: million fibers per liter

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 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 runoff, and septic systems.

Radioactive Contaminants, which 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. Immunocompromised 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

VIOLATIONS

The KWD had one reportable violation for water quality monitoring in 2019.

In the first quarter of 2019, the KWD was required to collect water samples to test for a contaminant referred to as disinfection by-products in February. Due to an oversight, the samples were not collected until March 5, 2019.

Even though the sample results were less than half of the acceptable health standard, the KWD received a notice of non-compliance because the sample were not collected within the required time parameters.

The staff at the KWD is committed to providing high quality drinking water to you every day and we apologize for this error. The federal public notification language associated with the notice of non-compliance can be found below:

> *The KWD violated a drinking water standard. Even though this is not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.*
>
> *We are required to monitor our drinking water for specific contaminants on a regular basis. Results of*

*regular monitoring indicate whether or not our drinking water meets health standards. During **February 2019,** we did not test for, or failed to collect all necessary tests for Total Trihalomethanes (TTHM) and/or Haloacetic Acid (HAA5).*

***What does this mean?** Because we did not test during the specified compliance period, we cannot be sure of the quality of our drinking water during that time period.*

***What should you do?** There is nothing you need to do at this time.*

***What is being done?** To correct the problem, we collected samples on: March 5, 2019 and continue to collect the required samples.*

WAIVER INFORMATION

The KWD had no waivers in 2019

PRIMARY STANDARDS

Regulated Standards for Finished Water

Parameter	MCLG Goal	MCL Highest Allowed	Results	Source
MICROBIOLOGICAL				
Coliform Bacteria (%)[1]	0	5% of monthly samples are positive	0 pos	Naturally present in the environment
ORGANIC COMPOUNDS				
Total Trihalomethanes (ppb)[2]	0	80	41.1 (23.8 – 65.8)	By-product of drinking water chlorination
Haloacetic Acids (ppb)[2]	0	60	24.7 (17.3 – 37.0)	By-product of drinking water chlorination
INORGANIC CHEMICALS				
Chlorine Residual (ppm)[5]	4	4	0.93 (0.77 – 1.14)	Water additive used to control microbes
Copper (ppm)[4]	1.3	AL=1.3	0.2	Corrosion of household plumbing systems
Fluoride (ppm)[3]	4	4	0.87 (0.68 – 0.87)	Water additive which promotes strong teeth
Lead (ppb)[4]	0	AL=15	2.74	Corrosion of household plumbing systems

Turbidity (NTU)[6]	None	1.49	0.09 (max: 2.00)	Soil runoff
RADIONUCLIDES				
OTHER				
	ALL OTHER REGULATED DRINKING WATER CONTAMINANTS WERE BELOW DETECTABLE LEVELS			

1. Coliform: Presence reported as highest month. No more than 5% of samples in a month shall be coliform positive.

2. TTHM & HAA5: Values are the highest locational average of four different locations in the distribution system and the range of individual values at all four locations.

3. Fluoride: Range of values at the beginning of the distribution system. The optimum dosage is 0.7 ppm.

4. Lead and Copper: Samples taken every three years. The last set of samples was taken in 2018. Values are a 90th% value of samples taken from 30 sites across the distribution system.

5. Chlorine: Values are the average and the range of all values taken entering the distribution system.

6. Turbidity: Annual average and max value.

SECONDARY STANDARDS

Non-regulated Aesthetic Standards for Finished Water

Parameter	Secondary Maximum Contaminant Level	KWD Test Results
Chloride (ppm)	250	15
Calcium (ppm)	No Standard	8.6
Magnesium (ppm)	No Standard	1.3
Manganese (ppm)	0.05	0.023
Sodium (ppm)	No Standard	12
Sulfate (ppm)	250	15
Total Hardness (ppm)	No Standard	27

Detected Unregulated Contaminants*

PFAS (per- and poly-fluoroalkyl substances) are a large group of manmade fluorinated chemicals which include the widely used chemicals perfluorooctanoic acid or PFOA, and perfluorooctanesulfonate or PFOS. There are

over 4,000 compounds that have been identified as PFAS to-date. These pervasive chemicals are contained in everyday consumer products like non-stick cookware, flame retardant clothing, furniture and carpets, as well as other industrial products like firefighting foams.

Because of the pervasiveness of these compound in our modern society, KWD elected to proactively sample for PFAS. Results from the sampling can be found below.

Parameter	Sampling Point	KWD Test Results	Federal Health Advisory Level (ppt)	Source
Persluorooctanoic acid (PFOA) (ppt)	Finished Water	2.9	70	By-product of industrial process and consumer products
Perfluoroheptanoic acid (PFHpA) (ppt)	Finished Water	2.9	None	By-product of industrial process and consumer products
perfluorohexanoic acid (PFHxA) (ppt)	Finished Water	2.2	None	By-product of industrial process and consumer products
Total		8	70	

*Additional PFASs compounds were tested for but were found to be below the Minimum Reportable Limit for the testing method.

To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water, the US EPA established the health advisory levels at **70 parts per trillion**. The US EPA's health advisories are based on the best available peer-reviewed studies of the effects of PFOA and PFOS on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations that have been exposed to PFASs.

If you have any questions about this report, your water quality or your water service, please call the KWD's office at (207) 872-2763 during normal business hours (Monday through Friday 8:30 a.m. until 4:30 p.m.). Questions may also be directed to the Maine Department of Health and Human Services Drinking Water Program at (207) 287-2070 or www.medwp.com or to the US EPA Safe Drinking Water Hotline at 1-800-426-4791 or online at: http://www.epa.gov/safewater/dwhealth.html

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