

# Annual Drinking Water Quality Report for 2021

## Kittery Water District

17 State Rd., Kittery, ME 03904

June 30, 2022

### MISSION STATEMENT

**To supply clean, safe, and healthy water for our residential, commercial, and governmental customers and for fire protection. We do this using best practices of water system construction and maintenance, water treatment, and watershed management.**

The 24<sup>th</sup> annual water quality report, in accordance with the 1996 Safe Drinking Water Act (SDWA), provides general information regarding District activities. During 2021, drinking water produced by the Kittery Water District (KWD), either met or exceeded all federal and state health safety requirements.

### DISTRICT ACTIVITIES IN 2021

- Produced well over 900 million gallons of water for the homes and businesses of Kittery, Kittery Point, parts of Eliot, the Portsmouth Naval Shipyard and a portion of York.
- Sunset Drive, Kittery – installed 281 feet of 2” high-density polyethylene (H.D.P.E.) water main, replacing 281 feet of 1956 vintage 2” iron main.
- Ford Lane, Kittery – installed 142 feet of 4” H.D.P.E. water main, replacing 142 feet of 1958 vintage 2” iron main.
- Hickory Lane, Eliot – installed 350 feet of 4” H.D.P.E. water main, replacing 345 feet of 1953 vintage 2” iron main.
- Wildrose Lane, Eliot – installed 140 feet of 2” H.D.P.E. water main, replacing 182 feet of 1 1/2” iron pipe and 119 feet of 1” iron pipe, both 1955 vintage.
- Libbey Lane, Eliot – installed 496 feet of 4” H.D.P.E. water main, replacing 403 feet of 1959 vintage 2” iron main.
- Goodwin Road, Kittery Point – installed 395 feet of 2” H.D.P.E. water main replacing 395 feet of 1980 vintage 2” PVC main.
- Malcolm Road, York – installed 465 feet of 6” H.D.P.E. water main, replacing 465 feet of 1962 vintage 6” C.I. main.
- Litchfield Road, Kittery -- installed 654 feet of 8” H.D.P.E. water main. This was a water main extension.
- Skyview Drive, Kittery – installed 403 feet of 6” H.D.P.E. water main. This was a water main extension.
- Summer Lane, Kittery – installed 440 feet of 2” H.D.P.E. water main. This was a water main extension.
- Passamaquoddy Lane, Eliot – installed 480 feet of 8” D.I.C.L. water main. This is new installation.
- Skyview Drive, Kittery – installed a new fire hydrant. #327-K.
- Passamaquoddy Lane, Eliot – installed 2 new fire hydrants in the Pine Tree Business Park. #92-E, #93-E.
- Main Street, Eliot –replaced a 1987 vintage hydrant with new model. #42-E.

- Haley Road, Kittery – replaced a 1988 vintage hydrant with a new model. #203-K.
- Riverwood Drive, York – replaced a 1970 vintage hydrant with a new model. #31-Y.
- Foxtail Drive, York – replaced a vintage 1986 hydrant with a new model. #33-Y.
- Pepperrell Road, Kittery Point – replaced a vintage 1938 hydrant with a new model. #143-K.
- Pepperrell Road, Kittery Point – replaced a vintage 1996 hydrant. #146-K.
- A total of 21 new customer services were installed.
- A total of 25 existing customer services were renewed.
- A total of 3 water main repairs were performed.
- Improved 4280 feet of watershed access road. This is part of an ongoing safety program within the watershed area. An upcoming dam rehabilitation project increases the necessity for improved roads. These roads are not only used by the KWD to access our ponds and dams but are critical arteries for travel by Search and Rescue members and local fire departments in times of emergency.

### FILTRATION PLANT RENOVATIONS

- Replaced distribution pump #2.
- Replaced the VFD for pump #2.
- Replaced Parco control cabinets and controls for pumps 1,2,3.

### 2022 CONSTRUCTION SCHEDULE

This construction season, our construction crew will be performing water main upgrades to increase fire protection capabilities and replace aging infrastructure in the following locations:



#### UPCOMING CONSTRUCTION



- Foyes Lane, Kittery Point.
- Maine Turnpike crossing at Beech Ridge Road, York
- Dennett Road / Spinney Way, Kittery

## 2021 Water Test Results

Contaminant:	Results:	Violation:	MCLG:	MCL:	Likely Source:
TOTAL COLIFORM BACTERIA (2021)	0 positive	No	0	1 positive per month or 5%	Naturally present in the environment.
TURBIDITY (8/21)	0.06 NTU	No	NA	0.3 NTU 95% 1 NTU 100%	Soil erosion; suspended materials.
BARIUM (4/21)	< 0.010 ppm	No	2 ppm	2 ppm	Erosion of natural deposits.
CUTTS ROAD TOTAL HALOACETIC ACIDS	16.5 ppb (LRAA) (Range: 13 – 22.8 ppb)	No	0	60 ppb	By-product of drinking water chlorination.
CUTTS ROAD TOTAL TRIHALOMETHANES	16.5 ppb (LRAA) (Range: 10.9 – 26.2 ppb)	No	0	80 ppb	By-product of drinking water chlorination.
ELIOT TANK TOTAL HALOACETIC ACIDS	34.2 ppb (LRAA) (Range: 15.2 – 50 ppb)	No	0	60 ppb	By-product of drinking water chlorination.
ELIOT TANK TOTAL TRIHALOMETHANES	45.8 ppb (LRAA) (Range: 41 – 52.6 ppb)	No	0	80 ppb	By-product of drinking water chlorination.
MARTIN ROAD TOTAL HALOACETIC ACIDS	27.8 ppb (LRAA) (Range: 16.2 – 43.3 ppb)	No	0	60 ppb	By-product of drinking water chlorination.
MARTIN ROAD TOTAL TRIHALOMETHANES	39.8 ppb (LRAA) (Range: 25.8 – 47.8 ppb)	No	0	80 ppb	By-product of drinking water chlorination.
ROUTE 1, YORK TOTAL HALOACETIC ACIDS	24.6 ppb (LRAA) (Range: 21 – 31.5 ppb)	No	0	60 ppb	By-product of drinking water chlorination.
ROUTE 1, YORK TOTAL TRIHALOMETHANES	26.8 ppb (LRAA) (Range: 13.4 – 36.1 ppb)	No	0	80 ppb	By-product of drinking water chlorination.
CHLORINE (2021)	1.6 ppm (Range: .8 – 1.9ppm)	No	4.0 ppm (MRDL)	4 ppm (MRDLG)	Water additive to control microbes.
NITRATE / NITROGEN (4/21)	< 1.0 ppm	No	10 ppm	10 ppm	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
CHROMIUM (4/21)	< 0.010 ppm	No	100 ppb	100 ppb	Discharge from steel and pulp mills. Erosion of natural deposits
RADIUM – 228 (4/16)	< 3 pCi/l	No	0 pCi/l	5 pCi/l	Erosion of natural deposits.
LEAD (4/21)	< 0.001 ppb	No	0	15 ppb (AL)	Corrosion of household plumbing systems.

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 chemical(s): TOXAPHENE/CHLORDANE/PCB, CARBAMATE PESTICIDES, SEMIVOLATILE ORGANICS. This waiver was granted due to the absence of these potential sources of contamination within a half mile radius of the water source(s).

### REGULATED PRIMARY DRINKING WATER STANDARDS

Our water was regularly tested for some or all the primary standard contaminants listed below, as regulated by law.

<b>Microbiological Contaminants</b>	12. Cadmium	25. Acrylamide	41. Ethylene dibromide	<b>Volatile Organic Contaminants</b>	66a. Haloacetic acids
1. Total Coliform Bacteria	13. Chromium	26. Alachlor	42. Glyphosate	<b>nants</b>	66b. Methyl-Tertiary-Butyl-Ether (MTBE) (Maine MCL)
2. Fecal coliform and <i>E. coli</i>	14. Copper	27. Atrazine	43. Heptachlor	55. Benzene	
3. Turbidity	15. Cyanide	28. Benzo(a)pyrene (PAH)	44. Heptachlor epoxide	56. Carbon tetrachloride	
<b>Radioactive Contaminants</b>	16. Fluoride	29. Carbofuran	45. Hexachlorobenzene	57. Chlorobenzene	67. Styrene
4. Beta/photon emitters	17. Lead	30. Chlordane	46. Hexachlorocyclo-pentadiene	58. o-Dichlorobenzene	68. Tetrachloroethylene
5. Alpha emitters	18. Mercury (inorganic)	31. Dalapon	47. Lindane	59. p-Dichlorobenzene	69. 1,2,4 -Trichlorobenzene
6. Combined radium	19. Nitrate (as Nitrogen)	32. Di(2-ethylhexyl) adipate	48. Methoxychlor	60. 1,2 - Dichloroethane	70. 1,1,1 - Trichloroethane
6a. Uranium	20. Nitrite (as Nitrogen)	33. Di(2-ethylhexyl) phthalate	49. Oxamyl [Vydate]	61. 1,1 - Dichloroethylene	71. 1,1,2 -Trichloroethane
<b>Inorganic Contaminants</b>	21. Selenium	34. Dibromochloropropane	50. PCBs [Polychlorinated biphenyls]	62. cis-1,2-Dichloroethylene	72. Trichloroethylene
7. Antimony	22. Thallium	35. Dinoseb	51. Pentachlorophenol	63. trans - 1,2 - Dichloroethylene	73. TTHM [Total trihalomethanes]
8. Arsenic	<b>Synthetic Organic Contaminants including Pesticides and Herbicides</b>	36. Diquat	52. Picloram	64. Dichloromethane	74. Toluene
9. Asbestos		37. Dioxin [2,3,7,8-TCDD]	53. Simazine	65. 1,2-Dichloropropane	75. Vinyl Chloride
10. Barium	23. 2,4-D	38. Endothall	54. Toxaphene	66. Ethylbenzene	76. Xylenes
11. Beryllium	24. 2,4,5-TP (Silvex)	39. Endrin			77. HAA5's [Haloacetic Acids]
		40. Epichlorohydrin			

### DEFINITIONS OF TESTING TERMINOLOGY

**Primary standards** - Quality standards designed to protect your health.

**Secondary standards** - Standards relating to the aesthetic qualities of water like taste, odor and color that do not present a health risk.

**ppm (Parts per million)** – unit of measure

**ppb (Parts per billion) or Micrograms per liter** –unit of measure

**pCi/L (Picocuries per liter)** - Picocuries per liter is a measure of the radioactivity in water.

**NTU (Nephelometric Turbidity Unit)** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**AL (Action Level)** - Concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**TT (Treatment Technique)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**MCL (Maximum Contaminant Level)** - The “Maximum Allowed” is 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.

**MCLG (Maximum Contaminant Level Goal)** - The “Goal” is 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.

**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.

**SMCL (Secondary Maximum Containment Level)** - The highest level of an aesthetic water quality parameter that is allowed in drinking water.

**RAA (Running Annual Average)** –The average of all monthly or quarterly samples for the last year at all sample locations.

**LRAA (Locational Running Annual Average)** –The average of monthly or quarterly samples for the last year from the same location.

### 2021 TEST RESULTS FOR SECONDARY STANDARDS

	Maximum Level Detected	SMCL
Manganese	0.026ppm	.050ppm
pH	6.7	6.0-8.5
Sodium	7.2ppm	20ppm
Sulfate	24ppm	250ppb
Total Chloride	<10ppm	250ppm
Total Hardness	28ppm	500ppm
Zinc	<0.010ppm	5ppm

## Additional Notes:

- 1) Total Coliform Bacteria: Reported as the highest monthly number of positive samples, for water systems that take < 40 samples per month.
- 2) Gross Alpha: Action level over 5 pCi/L requires testing for Radium. Action level over 15 pCi/L requires testing for Radon and Uranium.
- 3) Lead/Copper: Action levels (AL) are measured at consumer's tap. 90% of the tests must be equal to or below the action level.
- 4) Total Trihalomethanes (TTHM)/Haloacetic Acids (HAA5): 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.
- 5) Turbidity: Turbidity is a measurement of cloudiness or suspended colloidal matter (silt). Excessive turbidity can cause problems with water disinfection. All samples taken from our system were below 0.549 ntu's for rapid sand filtration media. Therefore, our water filtration system renders your finished drinking water clear and safe to drink.

## IMPORTANT INFORMATION

### 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 household plumbing. KWD is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When water has been sitting in household piping for several hours, the potential for lead exposure can be minimized 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 or at <http://www.epa.gov/safewater/lead>.

### MCLs

Maximum Contaminant Levels are set at very stringent levels. A person would have to drink 2 liters of water every day at the MCL level over the course of a lifetime to have a one-in-ten thousand chance of acquiring any adverse health effect.

### Source Information

The District obtains our water from four man-made ponds in the town of York, Maine: Boulter Pond, Middle Pond, Upper Folly Pond and Bell Marsh Reservoir. The watershed for these ponds has been tested for potentially harmful pathogens such as cryptosporidium, giardia, and E-Coli. None were detected. Our source water protection program prohibits all but passive recreation around the reservoirs. Frequent watershed protection patrols assure compliance with our watershed protection policies. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, radioactive material, and substances resulting from human or animal activity. The Maine Drinking Water Program assessed public water supplies statewide in 2003 as part of the Source Water Assessment Program. The assessment considered geology and hydrology, land uses, water testing information, and the extent of land ownership or local ordinance protection to determine how likely the drinking water source is to be contaminated in the future. This evaluation reflected positively on the District's watershed. The assessment is available to the public upon request. For more information, contact the Drinking Water Program at 207-287-2070.

The District's water treatment and filtering facility is located at Boulter Pond in York. The filtration process includes the addition of alum and hydrated lime to coagulate organic materials in the raw water. Sodium permanganate is added to oxidize iron and

manganese. As water passes through a sedimentation process, organic materials settle out. Water is filtered as it passes through a bed of washed, filtering sand. After filtering, the water is treated with sodium hypochlorite for disinfection. Hydrated lime is added to adjust water pH. Prior to leaving the plant, a corrosion control chemical, trade name AQUA MAG 9600, is added to reduce distribution system pipe corrosion.

### Health Information

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.

*Radioactive Contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

*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.

Our watershed monitoring program has tested for the above contaminants. None were detected. Should any contaminants be introduced, our water treatment process assures that the maximum contaminant level will be below State standards for safe 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.

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).

### Public Participation

The Kittery Water District was established in 1907 by the Maine Legislature and is not a part of town government. The Board of Trustees meet via Zoom the third Wednesdays of the month @ 8:00 am This meeting is open to public participation. For a link to the meeting visit our website @ [www.KitteryWater.org](http://www.KitteryWater.org) to register for the webinar.

### **Important Telephone Numbers and Addresses**

Kittery Water District Office	439-1128, 439-8549 (fax)
Kittery Water District Website	<a href="http://www.kitterywater.org">www.kitterywater.org</a>
Email address	<a href="mailto:kitterywater@comcast.net">kitterywater@comcast.net</a>
Kittery Water District Treatment Facility	363-4252
Kittery Police Dispatch (after hour emergencies)	439-1638
Michael S. Rogers, Superintendent	439-1128
Superintendent's email address	<a href="mailto:mrogerskwd@gmail.com">mrogerskwd@gmail.com</a>
Carl B. Palm, Assistant Superintendent	439-1128
Assistant Superintendent's email address	<a href="mailto:carlpkwd@comcast.net">carlpkwd@comcast.net</a>
John C. Perry, Trustee, President	<a href="mailto:jcperry@kitterywater.org">jcperry@kitterywater.org</a>
James E. Golter, Trustee, Treasurer	<a href="mailto:jgolter@kitterywater.org">jgolter@kitterywater.org</a>
Robert A. Gray, Trustee, Clerk	<a href="mailto:bgray@kitterywater.org">bgray@kitterywater.org</a>
Julia H. Pelkey, Trustee	<a href="mailto:jpelkey@kitterywater.org">jpelkey@kitterywater.org</a>
ME PUC's Consumer Assistance Division	1-800-452-4699
ME DHHS, Drinking Water Program	1-207-287-2070
EPA's Safe Drinking Water Hotline	1-800-426-4791

The Kittery Water District's Public Water System Identification Number (PWSID) is ME0090790.

**Kittery Water District**  
17 State Road  
Kittery, ME 03904-1565

BULK RATE  
U.S. POSTAGE  
**PAID**  
KITTERY, ME  
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