Ketchikan Public Utilities
2025 Annual Water Quality Report
Public Water System 2120232
2930 Tongass Avenue
Ketchikan, AK 99901

June __ 2026

Ketchikan Public Utilities (KPU) believe it is important to help our customers become better informed about where their drinking water comes from, what is involved in the delivery of safe drinking water, and the importance of source water protection at Ketchikan Lakes. We are pleased to present this, our twenty-fourth report, for the period between January and December 2025.

This report contains important information about your drinking water. For the benefit of those non-English speaking Ketchikan residents, please have the report translated, or speak with someone who understands it. In Tagalog; Mahalaga ang impormasyong ito. Mangyaring ipasalin ito. In Spanish; Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Ketchikan enjoys one of the purest and most plentiful supplies of drinking water in the world. Nevertheless, many of us who once gave no thought to the water that comes from our faucets are now asking the same question; "Is my water safe to drink?" Despite the presence of a group of EPA regulated chemical compounds known as disinfectant byproducts (discussed in greater detail on page 3 of this report) that have at intermittent times been higher than EPA permissible standards, our answer remains: Yes, it is!

Why am I receiving this report?
Congress passed the Safe Drinking Water Act in 1974 in response to nationwide concern about the safety of public drinking water supplies. The Environmental Protection Agency (EPA) was authorized to establish minimum standards and requirements for all public water suppliers. Continuing legislation since that time has included the requirement that consumers of water (including those with special health needs) be provided with information, which will allow them to make informed decisions regarding their drinking water.

What if I have questions about my water?
Drinking water, including bottled water, may reasonably be expected to contain at least some small amounts of 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).

For more information about your drinking water, please call John Kleinegger, KPU's Water Division Manager, at (907) 228-2441. Also, you are welcome and encouraged to attend public meetings of the Ketchikan City Council. They meet on the first and third Thursdays of every month at 7:00 pm in the City Hall's Karl R. Amylon Council Chambers located at 334 Front Street.

Copies of the annual 2025 Onsite Watershed Inspection Report conducted by the State Department of Environmental Conservation (ADEC), the latest 2025 sanitary survey of the entire municipal water system conducted by the Alaska Rural Water Association, as well as our Ketchikan Creek Watershed Protection Plan completed in December 2025 are all available upon request to KPU.

Where does our water come from?

The Ketchikan Lakes water supply includes over 11 square miles of watershed consisting of the drainage area surrounding Ketchikan Lakes and Granite Creek. These two drainage basins feed Fawn Lake through a series of tunnels and penstocks. Leaving Fawn Lake, another series of tunnels then conducts water down to the intake of the water system located on Fair Street across from the City Park. There, the raw surface water begins the disinfection process when thoroughly mixed with chlorine. It then travels a mile along Schoenbar Road to the Ultraviolet Light (UV) Disinfection Facility for additional disinfection. From the UV Facility, an additional amount of chlorine is added to mix with a small amount of ammonium hydroxide injected just before water enters the Bear Valley Reservoir. Within the 3-million-gallon reservoir, ammonia combines with the unreacted chlorine to form the final chloramine disinfectant and is distributed throughout Ketchikan's municipal water system. Chloramine disinfection began on April 8, 2014, and is now further enhanced with secondary chlorine injection that began on June 14, 2016. Our use of dual disinfectants with extra disinfection time is necessary to ensure that any viruses, bacteria, or any other pathogens that may have been present in the raw water are destroyed before ever entering your drinking water.

What contaminants might be in our water?
As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in our source water include:

A) Microbial contaminants, such as viruses and bacteria, may come from wildlife and human activity.
B) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from storm water runoff.
C) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes, and can also come from storm water runoff.

Are there contaminants in Ketchikan's water?
As required by ADEC, we send water samples every year to independent, certified laboratories for analysis using the latest, modern equipment. When last tested in 2023, of all the regulated inorganic contaminants, only minute amounts of barium were found present. All the other inorganic contaminants remained below the Method Reporting Limit (MRL). Note also that the amount of barium that was present is well below the EPA maximum allowable levels (MCL) for this contaminant. The next set of inorganic analyses are due between 2029 and 2037.

As an unfiltered water system, we are required to monitor our turbidity continuously. Turbidity is a measure of the cloudiness of the water, and we test for it because it is an indicator of microbiological quality. The standard allowable raw water turbidity for an unfiltered water system like Ketchikan's is 5 Nephelometric Turbidity Units (NTU's). Although the normal turbidity level in our raw water supply from Ketchikan Lakes generally ranges between 0.2 - 1.0 NTU, on March 14, 2024, during heavy rainfall that night, a turbidity event occurred reaching 4.45 NTU. While this turbidity was still below the maximum allowable of 5 NTU, samples of disinfected water were collected as a precautionary measure from both the Chlorination Plant and the Bear Valley Reservoir for analysis by a certified laboratory. Samples were quickly collected from the Chlorination Plant, two from the Bear Valley Reservoir, and one from the Highlands Reservoir on March 15, 2024, using new, clean and sealed, sample bottles.

All the results were exactly as expected; Zero (0) coliform bacteria colonies present in the disinfected, treated water samples collected from throughout the municipal distribution system.

When needed, KPU has procedures in place to divert the raw water being supplied from Granite Basin Creek. In addition, Ketchikan Lakes also directly supplies the Ketchikan Powerhouse hydrogenerators which may be sped up to help flush out the increased turbidity. These methods along with the use of chlorine and ultraviolet light as dual disinfectants provide Ketchikan's water distribution system with ample disinfection. Disinfected, treated water samples are collected weekly throughout the municipal distribution system and have reported **Zero (0)** coliform bacteria colonies results.

Volatile organic contaminants are also created when the naturally occurring organics produced during the wood decay process are carried by rainfall runoff into the Ketchikan Lakes. The greatest amount of these dissolved organics in the raw water occurs during the warmer and drier summer months and when they combine with the chlorine solution being added for disinfection, a group of EPA regulated chemical compounds are formed known as disinfection byproducts. They are Total Trihalomethanes (TTHM's) and Haloacetic acids (HAA5's). The maximum contaminant level (MCL) for TTHM's is 80 parts per billion (ppb) and for HAA5's, 60 ppb.

The EPA's Stage 2 Disinfection Byproducts Rule (Stage 2 DBPR) that went into effect in 2014 placed additional responsibility upon Ketchikan to reduce HAA5 formation by requiring quarterly sampling at the two worst-case scenarios within the distribution system and just at specific months. The 2025 running quarterly average HAA5 results at those two worst-case sites at the four specific months were 39.68 ppb and 41.48 ppb, both are significantly less than the 60 ppb MCL. Similarly, the 2024 running quarterly TTHM average, expressed at the same Stage 2 DBPR sampling basis, found both sites were averaging 32.65 and 36.95 ppb, which are both well below the 80 ppb MCL.

Starting in April 2014, both chlorine and ultraviolet light (UV) began use as dual disinfectants followed by ammonia injection to create chloramines to reduce HAA5 creation. In June 2016, another improvement began by reducing the chlorine amount at the primary site linked with adding the minimal amount necessary for chloramine formation at the secondary site. An additional reduction began in January 2020, when the primary site's chlorine residual set point was further reduced to 0.4 ppm. As a result, all these changes together have significantly reduced the amount of HAA5 formation.

Ketchikan is now in compliance with all Federal drinking water standards.

Is our water safe for everyone?
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as people with cancer undergoing chemotherapy, people 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

In the Table below, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present.
Parts per million (ppm) or Milligrams per liter (mg/l) – corresponds to one part per million parts. For ease of comparison, the following examples illustrate just how small a part per million (ppm) is; A ppm is equal to one minute in 2 years or 1 penny in $10-thousand dollars.
Parts per billion (ppb) or Micrograms per liter – corresponds to one part per billion parts. Similarly, the following examples illustrate just how small a part per billion (ppb) is; A ppb is equal to one minute in 2000 years or 1 penny in $10-million dollars.
Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity more than 5 NTU is just noticeable to the average person.
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 treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Maximum Contaminant Level (MCL) - The "Maximum Allowed" 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 - The "Goal" (MCLG) 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 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.

Part per Trillion (PPT) - A part per trillion (PPT) is extremely minute and is equal to one minute in 200,000 years or 1 penny in $10-billion dollars.

TEST RESULTS						
Contaminant	MCL Violation	Level Detected	Unit Measurement	MCLG	MCL	Likely source of contamination to the best of our present knowledge
Microbiological Contaminants						
Turbidity (2025) Note (1)	No	4.45	NTU	n/a	5	Soil runoff
Note (1) turbidity is a measure of the cloudiness of the water. We test it because it is an indicator of microbiological quality.						
Chemical Contaminants						
Chloramines (2025) Note (2)	No	2.00	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes
Note (2) The 12-14 distribution disinfection samples collected monthly to confirm zero (0) coliform colonies present and the Chloramine residual throughout the community generally runs between 1.2-1.6 ppm. The minimum residual sample within a given month ranged between 1.0 – 2.00 ppm.						

Inorganic Contaminants						
Copper (2024) Note (3) 90th percentile reporting	No	0.460	ppm	1.3	AL= 1.3	Corrosion of household plumbing
Lead (2024) Note (4) 90th percentile reporting	No	3.8	ppb	zero	AL= 15	Corrosion of household plumbing
Note (3) None of the twenty samples exceeded the current action level of 1.3 ppm. Next test cycle is due in 2027.						
Note (4) None of the twenty samples exceeded the current action level of 15 ppb. Next test cycle is due in 2027.						
Volatile Organic Contaminants						
TTHM (Total Trihalomethanes) (2025) Note (5)	No	32.65 & 32.92	ppb	n/a	80	By-product of water chlorination
HAA5 Haloacetic Acids (2025) Note (6)	No	39.68 & 41.48	ppb	n/a	60	By-product of water chlorination
Note (5) In 2025, a total of eight samples were taken at two specific distribution sites. The TTHM individual analytical results ranged between 22.79 and 44.10 ppb.						
Note (6) In 2025, a total of eight samples were taken at two specific distribution sites. The HAA5 individual analytical results ranged between 29.00 and 51.50 ppb.						

Disinfection Byproducts (DBP) Contaminants:

Although 2025's locational running annual averages (LRAA) of the previous four quarterly HAA5 samples collected from each site are reported in the Table above, when the February & May 2026 samples are included in the next four quarterly LRAA calculations, they continued almost unchanged: 35.78 ppb and 40.43 ppb. Both sites are continuing to average below the EPA's 60 ppb maximum contaminant level (MCL) for HAA5's.

For the past 9½ years Ketchikan has remained in compliance with the Stage 2 DBP Rule for both HAA5's and TTHM's.

Monitoring Waivers:

ADEC granted Statewide Use Waivers in 1994 for Asbestos and Dioxin and a Waiver by Rule issued for Cyanide. They also granted a Susceptibility Waiver for Synthetic Organic Chemicals (SOC) after 1993 sampling; all of which were below the detection limit of the analytical equipment. This Waiver has continued to be granted.

Concerning radioactivity in our water:

Samples of Ketchikan's water are collected for analysis by an independent laboratory to determine if our water contains any radioactive isotopes. In the 2016 and 2005 samples, the emitted alpha and beta particles from these regulated element isotopes were found to be either at or below the minimum detectable threshold of the laboratory's analytical equipment. Similarly negative results occurred in 2001 when our water was tested only for radon. The next set of samples is due to be collected between 2026 and 2034.

Concerning lead in our 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. KPU is responsible for providing high quality drinking water but 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 the 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 are available from the Safe Drinking Water Hotline (800-426-4791) or at http://www.epa.gov/safewater/lead.

The EPA adopted a new regulation, Lead and Copper Rule Revisions (LCRR) to better protect communities from exposure to lead in drinking water. One of the first steps of this regulation is for every water utility in the United States to submit an initial inventory of their lead (or even suspected lead) service lines. Every existing service line including both the portion owned by KPU, as well as the portion that the individual ratepayer owns, must be identified, and categorized as either being constructed of lead pipe, galvanized pipe requiring replacement, non-lead pipe, or its lead status is unknown. KPU employees have personally inspected and photographed 307 of the oldest water services where they entered the building envelope on private property and have confirmed they are all constructed of non-lead materials. The final report was submitted to ADEC and the results appear on their Lead-Safe Alaska Portal; https://ak-lsli-adec.hub.arcgis.com/ **KPU does not have any lead service lines present within the right-of-way nor are we aware of any on private property**

The EPA's proposed revisions to the Lead and Copper Rule (LCR) were not adopted in 2021 as anticipated. Instead, the existing EPA LCR regulations continued requiring lead and copper water samples to be collected during the summer months every 3 years from twenty residences constructed during the final years when lead soldered plumbing was legal. KPU collected these residential samples in 2024, and the results are reported in Table I above, none of which exceeded the Action Level. As far as the drinking water delivered from KPU's water mains is concerned, it has always been much less than the EPA's MCL for lead. Three samples that were collected in 2008 from KPU's water mains ranged between 0.50 and 0.71 ppb lead.

Concerning arsenic in our water:

Nationwide, there was significant discussion during 2002 concerning the amount of arsenic permissible in drinking water and the Maximum Contaminant Level (MCL) was lowered by the EPA from 50 ppb to 10 ppb. Ketchikan's arsenic level has been tested for years by independent laboratories, most recently in 2012 and was not detected even at the 1 ppb level. With Ketchikan's consistently low arsenic results, the next sample is due to be taken between 2029 – 2037.

Concerning the pH and Corrosion Control Effects of our water:

The EPA's National Secondary Drinking Water Regulations set non-mandatory water quality standards for pH with a range between 6.5 - 8.5 pH. Ketchikan's drinking water averages 7.8 pH and ranges between 7.3 - 8.2 pH.

KPU's corrosion control program consists of both the addition of "soda ash" or sodium carbonate (Na_2CO_3) for pH control supplemented with phosphoric acid (H_3PO_4), also known as orthophosphate. Their purpose is to prevent any exposed lead from leaching into drinking water

by depositing a protective scale within the interior of any lead-soldered copper plumbing remaining in older residences or other structures

Concerning the PFAS (perfluoroalkyl substances) content of our water:

Every five years, EPA uses the UCMR to monitor for the highest priority unregulated drinking water contaminants encountered at Public Drinking Water Systems across the United States. This action identifies a new list of unregulated priority contaminants for public water system (PWS) monitoring and fulfills a key commitment of the "EPA's 2019 Per- and Polyfluoroalkyl Substances (PFAS) Action Plan". It will be used by EPA as the basis for future regulatory determinations and may support additional actions to protect public health.

Ketchikan was one of the 10,229 water systems that were selected to participate nation-wide in this study that began in 2023 and was just completed in 2025. EPA laboratories have now published the analytical results from the entire UCMR5 study including the results compiled from Ketchikan's quarterly water samples which were analyzed for 29 per- and polyfluoroalkyl substances (PFAS) and lithium.

Of the almost unpronounceable names of perfluoroalkyl substances that were sampled as the Ketchikan portion of the UCMR5 sampling, all were found to be **below** the EPA established UCMR Minimum Reporting Level (identified in the Summary Report) for the analytical equipment used. Although the results are reported in micrograms per liter (ug/L) ranging from < 0.002 to <0.008 ug/L. The < symbol preceding the number indicates the results are below the detectable limit of the analytical equipment used.

When expressed in another manner, these results are below the detectable limit of the laboratory's analytical equipment which, depending on the individual chemical compound specified, is present in an amount less than 2 to 8 parts per trillion, an infinitesimally small number.

None of the five perfluoroalkyl substances listed in the UCMR5 sampling were present in detectable amounts in the USGS non-cancer Health-Based Screening Levels (HBSL) either. These Screening Levels are non-enforceable water quality benchmark concentrations of contaminants in water that were developed using both the latest EPA methods for establishing drinking water guidelines and the most recent EPA peer-reviewed toxicity information. They are described as the maximum concentrations which are not expected to cause adverse non-carcinogenic health effects over a lifetime of exposure.

What contaminants are in UCMR 5?

UCMR 5 specifies monitoring for 29 per- and polyfluoroalkyl substances (PFAS) and lithium listed in the table below.

Contaminant	CASRN[1]	MRL[2] (µg/L)	Additional Information
25 PFAS: EPA Method 533			
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9	0.005	PFAS are a group of synthetic chemicals used in a wide range of consumer products and industrial applications including: non-stick cookware, water-repellent clothing, stain-resistant fabrics and carpets, cosmetics, firefighting foams, electroplating, and products that resist grease, water, and oil. PFAS are found in the blood of people and animals and in water, air, fish, and soil at locations across the United States and the world.
1*H*,1*H*, 2*H*, 2*H*-perfluorodecane sulfonic acid (8:2FTS)	39108-34-4	0.005	
1*H*,1*H*, 2*H*, 2*H*-perfluorohexane sulfonic acid (4:2FTS)	757124-72-4	0.003	
1*H*,1*H*, 2*H*, 2*H*-perfluorooctane sulfonic acid (6:2FTS)	27619-97-2	0.005	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	0.003	
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	0.002	
hexafluoropropylene oxide dimer acid (HFPO-DA)(GenX)	13252-13-6	0.005	
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	151772-58-6	0.02	
perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	113507-82-7	0.003	
perfluoro-3-methoxypropanoic acid (PFMPA)	377-73-1	0.004	
perfluoro-4-methoxybutanoic acid (PFMBA)	863090-89-5	0.003	
perfluorobutanesulfonic acid (PFBS)	375-73-5	0.003	
perfluorobutanoic acid (PFBA)	375-22-4	0.005	
perfluorodecanoic acid (PFDA)	335-76-2	0.003	
perfluorododecanoic acid (PFDoA)	307-55-1	0.003	
perfluoroheptanesulfonic acid (PFHpS)	375-92-8	0.003	
perfluoroheptanoic acid (PFHpA)	375-85-9	0.003	
perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.003	
perfluorohexanoic acid (PFHxA)	307-24-4	0.003	
perfluorononanoic acid (PFNA)	375-95-1	0.004	
perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.004	
perfluorooctanoic acid (PFOA)	335-67-1	0.004	
perfluoropentanesulfonic acid (PFPeS)	2706-91-4	0.004	
perfluoropentanoic acid (PFPeA)	2706-90-3	0.003	
perfluoroundecanoic acid (PFUnA)	2058-94-8	0.002	
4 PFAS: EPA Method 537.1			
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2991-50-6	0.005	See above for PFAS information.
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2355-31-9	0.006	
perfluorotetradecanoic acid (PFTA)	376-06-7	0.008	
perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.007	
Metal/Pharmaceutical: EPA Method 200.7; SM[3] 3120 B (2017); SM[3] 3120 B-99 (1999); ASTM[4] D1976-20			
lithium	7439-93-2	9	Naturally occurring metal that may concentrate in brine waters; lithium salts are used as pharmaceuticals, used in electrochemical cells, batteries, and in organic syntheses.

1. CASRN – Chemical Abstracts Service Registry Number
2. MRL – Minimum Reporting Level
3. SM – Standard Methods
4. ASTM – ASTM International