Unalakleet 2020 Water Quality Report

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 9 of those contaminants and found only 3 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

Source water for Unalakleet comes from the Powers Creek infiltration gallery. This classification requires treatment, such as filtration and chlorination. After our water is filtered and chlorinated, it is stored in the water tank until used by the community.

Source water assessment and its availability

Source water is untreated water from streams, rivers, lakes, or underground aquifers that is used to supply public drinking water. Preventing drinking water contamination at the source makes good public health sense, good economic sense, and good environmental sense. You can be aware of the challenges of keeping drinking water safe and take an active role in protecting drinking water. There are lots of ways that you can get involved in drinking water protection activities to prevent the contamination of our water source. Dispose properly of household chemicals, help clean up the watershed that is the source of our community's water and attend public meetings to ensure that the community's need for safe drinking water is considered in making decisions about land use.

Source water assessments have completed by ADEC as a first step towards voluntary local source water protection efforts. Vulnerability rankings are assigned based on the susceptibility of the time drinking water source, recent sampling results, and the presence of potential contaminants sources, they do not necessarily indicate these contaminants will reach your source of water. The Unalakleet City Water Supply had a source water assessment completed and received the following vulnerability rankings. The wellhead received a susceptibility rating of "High" and the aquifer received a susceptibility rating of "High". Combining these two ratings produce a "High" rating for the natural susceptibility of the well. Overall, the water well received a vulnerability rating of "Very High" for bacteria and viruses, inorganic chemicals, and heavy metals and a vulnerability rating of "High" for nitrates and nitrites, volatile organic chemicals and a vulnerability rating of "Low for synthetic organic chemicals and other organic chemicals.

The source water assessment results can be viewed online at hhtp://dec.alaska.gov:8080/DWW/index.jsp or the full report can be obtained by contacting the DEC Drinking Water Program directly at 907-269-7549.

Why are there contaminants in my 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) 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 from human activity include:

- Microbial contaminants, such as viruses and bacteria, that 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 stormwater runoff, and septic systems.
- And radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Unalakleet 2020 Water Quality Report

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

If you would like more information on becoming an active participant in our water system, please contact us using the information at the end of this report.

Description of Water Treatment Process

Your water is treated in a "treatment train" (a series of processes applied in a sequence) that includes coagulation, flocculation, sedimentation, filtration, and disinfection. Coagulation removes dirt and other particles suspended in the source water by adding chemicals (coagulants) to form tiny sticky particles called "floc," which attract the dirt particles. Flocculation (the formation of larger flocs from smaller flocs) is achieved using gentle, constant mixing. The heavy particles are then removed through a filtration process where the water passes through sand, gravel, charcoal or other filters that remove even smaller particles. A small amount of chlorine or other disinfection method is used to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water before water is stored and distributed to homes and businesses in the community.

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving.
- Use a water-efficient showerhead.
- Run your clothes washer and dishwasher only when they are full.
- Water plants only when necessary.
- Teach your kids about water conservation to ensure a future generation that uses water wisely.
- Visit www.epa.gov/watersense for more information.

Cross Connection Control Survey

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and ensuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included)
- Additional source(s) of water on the property

Source Water Protection Tips

Protection of drinking water is everyone's responsibility. You can help protect your community's drinking water source in several ways:

- Pick up after your pets.
- If you have your own septic system, properly maintain your system to reduce leaching to water sources or consider connecting to a public water system.
- Dispose of chemicals properly; take used motor oil to our local Tribal Environmental Program for recycling.

Volunteer in the community to clean up litter in our watershed.

Monitoring and reporting of compliance data violations

Public Notice – Failed to Publish
We were required to publish a tier 3 public notice in May and June of 2020. We failed to do so in a timely manner. The violations were resolved in June and November respectively when the certification pages were submitted.

Operator Reporting – No Reports, Entry Point Chlorine, and Turbidity
We are required to submit monthly operator reports to ADEC. These reports cover the levels of turbidity and chlorine in the water. We did not turn in a report in the month of February and submitted a report in July with an insufficient number of entry point chlorine samples. In the months of August and November we completed inadequate monitoring and/or reporting for turbidity. We are required to treat our water with chlorine to kill any microscopic organisms that may be present. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose and could experience stomach discomfort. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Untreated water may contain organisms, including bacteria, viruses, and parasites, that can cause symptoms such as

nausea, cramps, diarrhea and associated headaches.

Operator Reporting and Coliform – Monitoring and Distribution System Chlorine
We are required to sample monthly for Total Coliform. We are required to report the level of chlorine found in the water in the distribution system when we perform our monthly total coliform sampling. We did not do this for the month of April. However, in the months we did sample, we received negative test results. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Chlorine is a water additive used to control microbes. Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort. Untreated water may contain organisms, including bacteria, viruses, and parasites, that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Disinfection By-Products - Monitoring
We are required to collect samples for disinfection by-products [Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5)] quarterly. We did not do this during the fourth quarter of 2020. However, when we did sample, and we received test results well under the EPA established limit. 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. Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Both are by-products of drinking water chlorination.

Significant Deficiencies

There are still 5 outstanding deficiencies since the sanitary survey that was done in 2020.

1. The online and handheld instruments such as turbidimeters and pH probes have not been calibrated. The standards and solutions required for calibration must be acquired. Instruments must be calibrated regularly to the manufacturer's recommendations for frequency and method.
2. Both the overflow and the vent must be properly screened.
3. Heat-add systems needed for treatment processes are in need of repair/replacement. This deficiency will be corrected with the Heat Exchanger and WTP Upgrades Project scheduled for construction in the summer of 2021.
4. Entry point samples are currently being taken from the WST fill line. The sample tap was removed during an emergency repair. The tap must be replaced so that CT parameters and chlorine residual can be measured downstream of the WST and at the entry point to the distribution system (before the school loop).
5. The single-walled heat exchanger containing ethylene glycol in the water treatment plant (WTP) is a high hazard cross-connection that poses high risk to public health. We understand this heat exchanger will be replaces with the Heat Exchanger and WTP Upgrades Project scheduled for construction in the summer of 2021. This deficiency is

currently being addressed through a Compliance Order by Consent (COBC); however, the deadline outlined in the COBC has expired. An updated plan of action that clearly outlines thee dates for this to be resolved must be submitted to the department for review and approval within the timeline outlined above.

Other Information

**The new City Administrator wanted to add some language into their CCR to give folk in UNK some details about all the exciting things happening to improve their drinking water system.

Additional Information for 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 service lines and home plumbing. Unalakleet City Water Supply 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 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.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Unalakleet 2020 Water Quality Report

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl2) (ppm)	4	4	.81	.60	.81	2020	No	Water additive used to control microbes.
Haloacetic Acids (HAA5) (ppb)	NA	60	9	6.8	13.1	2020	No	By-product of drinking water chlorination.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	11	4.1	10.7	2020	No	By-product of drinking water disinfection.
Inorganic Contaminants								
Nitrate [measured as Nitrogen] (ppm)	10	10	.439	NA	NA	2020	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Microbiological Contaminants								
Turbidity (NTU)	NA	0.3	61	NA	NA	2020	Yes	Soil runoff.
61% of the samples were below the TT value of 0.3. A value less than 95% constitutes a TT violation. The highest single measurement was 2.84. Any measurement in excess of 1.49 is a violation unless otherwise approved by the state.								

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	1.34	2020	3	Yes	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead - action level at consumer taps (ppb)	0	15	10.6	2020	2	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Violations and Exceedances

Copper - action level at consumer taps

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. We are required to submit 20 samples for copper and lead every six months. In 2020 we exceeded the Action Level for copper. We are performing a Corrosion Control Study to determine the best way to treat our water to prevent this in the future.

TT Violation	Explanation	Length	Health Effects Language	Explanation and Comment
Surface water treatment rule filtration and disinfection violations	We are required to filter our water to remove turbidity (particles in the water). In the months of January, March, April, May, June, July, September, October, November, and December we exceeded the MCL for turbidity.	In the months of January, March, April, May, June, July, September, October, November, and December we exceeded the MCL for turbidity.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	We are working with the State VSW engineers to move our community water source to a new location. The new water source should solve our turbidity problem. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Unit Descriptions	
Term	**Definition**
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
NTU	NTU: Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
Term	**Definition**
MCLG	MCLG: Maximum Contaminant Level Goal: 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.
MCL	MCL: Maximum Contaminant Level: 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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or

Important Drinking Water Definitions	
	other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	MRDL: Maximum residual disinfectant level. 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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

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