City of Kodiak Public Works

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Wind Turbines on Pillar Mountain
Photo Courtesy of Constantino Bormuel

City of Kodiak

2015 Annual Water Quality Report

PWS ID # AK2250011

The City of Kodiak has been providing clean water to the community for many years, helping to keep you and your family healthy. We take this mission very seriously. As shown in this annual report covering the year 2015, the water we delivered meets or exceeds the strict regulations of the State of Alaska and the U.S. Environmental Protection Agency. You can also find this report on the City of Kodiak's web site: www.city.kodiak.ak.us under Public Works, Department Details, and Water Utility.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

Ang ulat na ito ay nagsasaad ng mahalagang impormasyon tungkol sa tubig na iyon iniinom. Kailangan mo ng taong makapagsasalin nito sa wikang Pilipino.

In 2015, our water department distributed 1.97 billion gallons of water to our customers. Water is pumped from the Monashka Reservoir and the Pillar Creek Reservoirs, which are on Monashka Road northwest of Kodiak, to the Upper Reservoir, located on Pillar Mountain Road. The water flows from Upper Reservoir directly into the water treatment facility.

These reservoirs are fed by protected watersheds. The Kodiak water system has developed watershed management plans for all of the city's water sources. Copies of the plan are available for review at the Public Works offices at 2410 Mill Bay Road. One of the main activities performed to protect the quality of Kodiak's water is to restrict access into the watershed areas. All entrances are gated, signed and checked daily. In addition, the entire perimeter of the Upper Reservoir is fenced because it is the final holding basin prior to treatment and distribution.

FOR MORE INFORMATION about your drinking water and for opportunities to get more involved, please contact Mark Kozak, Public Works Director, by calling (907) 486-8060 or by writing to the City of Kodiak Public Works Dept, 2410 Mill Bay Road, Kodiak AK 99615. Also, you are welcome and encouraged to attend public meetings on the second and fourth Thursday of every month at 7:30 p.m. at the Assembly Chambers, 710 Upper Mill Bay Road.

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 EPA's Safe Drinking Water Hotline at (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. Contaminants that my be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural live stock 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, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

The City of Kodiak adds chlorine to the drinking water as a disinfectant to control microbial contaminants. The chlorine residual entering the distribution system must be above 0.2 ppm to insure adequate disinfection and below 4.0 ppm. The City met this requirement 100% of the time for 2015.

The City of Kodiak water distribution system contains some cement asbestos piping. The City is required to sample for asbestos in the drinking water periodically. In the 2013 sampling, no asbestos fibers were detected in the drinking water.

Notes:

1. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

2. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

3. The City of Kodiak public water system received a violation for lead exceedance in the year 2001. High lead levels are primarily due to corrosion of lead containing solder pipes and/or plumbing fixtures inside a house or building. We have completed a corrosion control study. However, although attempts to monitor standard lead and copper, were conducted, we were not able to complete a standard monitoring for lead and copper since 2001. In 2015, we did not complete this standard monitoring and has also received a monitoring violation. To address this, beginning in 2016, we will collect the required standard monitoring of 40 samples to comply with federal and state regulatory requirements for corrosion control treatment program. This monitoring will also allow us to further evaluate our corrosion status with current data. We will continue to work closely with the state towards compliance and corrosion control treatment process.

Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about the elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using.. Additional information can be found at the Safe Drinking Water Hotline at (800) 426-4791.

Definitions
Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety. Treatment Technique or TT, a required process intended to reduce the level of a contaminant in drinking water.
Action Level or AL: The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
Nephelometric Turbidity Units or NTU: A measure of clarity.
N/A[1]: Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants.
N/A: Not applicable
ppb or parts per billion: micrograms per liter (ug/l).
pCi/L or picocuries per liter: a measure of radioactivity.
ND - not detected

The public water system for the City of Kodiak is a Community Water System that obtains water primarily from the Monashka Reservoir, approximately 5-miles north of Kodiak. Water collected at the Monashka Reservoir is piped to the Upper Reservoir, where it is stored before treatment and distribution. The Monashka Reservoir drinking water protection area is approximately 4 square miles in size and the Upper Reservoir drinking water protection area is approximately 19 acres in size. The Pillar Creek Reservoir is located approximately 1.5 miles northwest of Kodiak and is used as an alternative water source for the system. The Pillar Creak Reservoir drinking water protection area is approximately 4 square miles in size. The susceptibility rating of all protection areas is "**very high**." *A rating of high to very high is typical for all systems with surface water intakes.* Potential and existing sources of the following contaminants were evaluated for the Source Water Assessment: bacteria and viruses, nitrates and/or nitrites, heavy metals cyanide, and other inorganic chemicals, synthetic organic chemicals, volatile organic chemicals, and other organic chemicals. No potential contaminant sources were identified for the drinking water source. This evaluation included all available water sampling data submitted to State of Alaska Department of Environmental Conservation (ADEC) by the system operator. The samples may have been collected from either raw water or post-treated water. Combining the susceptibility of the surface water source with the contaminant risks, this water system has received a vulnerability rating of "**medium**" for all six contaminant categories. This assessment can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of the City of Kodiak to protect public health.

The City of Kodiak has been meeting drinking water disinfection regulatory requirements since 1995 for the 99.9% inactivation of the protozoan Giardia lamblia and 99.99% inactivation of viruses with a chlorine disinfection system. The USEPA and ADEC have recently begun regulating the inactivation of Cryptosporidium, a disease causing protozoan, found in many drinking water sources. Water systems that do not filter their water will be required to demonstrate 99.9% inactivation of Cryptosporidium by either ultra violet (UV) light, ozone, or chlorine dioxide and do so by October 1, 2014. To maximize the most efficient use of State and Federal grant funds, the City has completed the design, construction and start-up of a new UV light disinfection water treatment system with large scale UV disinfection equipment that will disinfect all potable water delivered to its customers. Interim approval to operate the system for inactivation of Cryptosporidium was granted by the State of Alaska on June 20, 2013. The City is now operating with 2 independent disinfection treatment systems and is in compliance with all State and Federal drinking water disinfection regulations.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune compromised persons such as person 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 infections by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Freeze Precautions:

- Insulate or install heat tape on pipes and faucets in unheated or exposed areas such as crawl spaces, unheated garages, attics and pipes near outer walls. Check for damp insulation; water-soaked insulation can cause freeze ups.
- Drain pipes before extended vacations.
- Heat your home. When on vacation set your thermostat no lower than 55 degrees. Open cabinets doors to allow warm air to circulate around pipes on exterior walls. Have someone check your home regularly, especially after a power outage
- Disconnect and drain garden hoses. Install an insulated cover over the exposed hose bib.
- Eliminate drafts. Close air vents and windows, and seal cracks particularly those near water lines. *Failure to close foundation vents is probably the singe greatest cause of frozen pipes.* Open the vents in the spring.
- Open cabinet doors below sinks when it's cold out. If a sink is located against an outside wall, open cabinet doors to allow warm air to reach water pipes.

A primary requirement the City must meet is to demonstrate that it can control ALL HUMAN ACTIVITIES in the watershed. Hiking and hunting in the watershed can damage vegetation and induce erosion by exposing soil surfaces on the trails. Recreation in the watersheds also has the potential to increase fecal contamination through pet and human waste.

Protecting Our Watersheds—Kodiak gets its drinking water from the Monashka Reservoir Watershed and the Pillar Creek Watershed. These two watersheds remain natural and undisturbed, unlike a majority of U.S. community water sources. Kodiak's water sources are of such high quality that the City is currently not required to filter the water before it is disinfected and delivered to the community through its piped water distribution system.

Filtration is very expensive and avoiding filtration keeps your water rates down. For a drinking water system to qualify for filtration avoidance under U.S. EPA's Surface Water Treatment Rule (SWTR), the system must have an active watershed control program and meet numerous requirements.

Cooperation from the public is critical. **PLEASE** respect the restricted access areas that are gated and signed. Help us keep your water clean and safe

Contaminants	Unit	MCLG Health Goal	MCL EPA's Limits	Level Detected	Range Detected	Violation? (Yes / No)	Year [1] Sampled	Potential Source of Contamination
Microbiological Contaminants								
Turbidity [2]	NTU	N/A	5.0	2.90 Highest Sample	100% of samples met limits	No	2015	Soil Runoff
Inorganic Contaminants								
Copper	ppb	1.3	1300 = AL	0.449 (90th percentile)	All 20 sites below AL	No	2001	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead	ppb	0	15 = AL	20.0 (90th percentile)	4 of 20 sites above AL	Yes	2001	Corrosion of household plumbing systems; Erosion of natural deposits.
Nitrate	ppb	10	10,000	260	N/A	No	2015	Erosion of natural deposits.
Arsenic	ppb	0	10	0.188	N/A	No	2012	Erosion of natural deposits
Barium	ppb	2,000	2,000	3.12	N/A	No	2014	Erosion of natural deposits.
Organic Contaminants								
Total Trihalomethanes (TTHMs)	ppb	N/A [1]	Annual Average 80	52.3	34.8 - 63.1	No	2015	Byproduct of drinking water chlorination.
Haloacetic Acids (HAA5)	ppb	N/A [1]	Annual Average 60	35.5	25.0 - 51.0	No	2015	Byproduct of drinking water chlorination.
Radioactive Contaminants								
Gross Alpha	pCi/L	0	15	1.5	N/A	No	2014	Erosion of natural deposits.
Radium 226/228	pCi/L	0	5	.0548	0.061 - 0.487	No	2014	Erosion of natural deposits.