

CITY OF SAINT PAUL
WATER UTILITY
2013
ANNUAL
WATER QUALITY
REPORT

June 2014

Page 6 has the new test results - WE'RE GOOD!

A water-saving tip: Keep a pitcher of drinking water in the refrigerator instead of running the tap to fill a single glass.

***To: St. Paul Boxholders
St. Paul Island, Alaska
99660***

Prepared for
**THE RESIDENTS AND WATER UTILITY CUSTOMERS
OF
THE CITY OF SAINT PAUL**

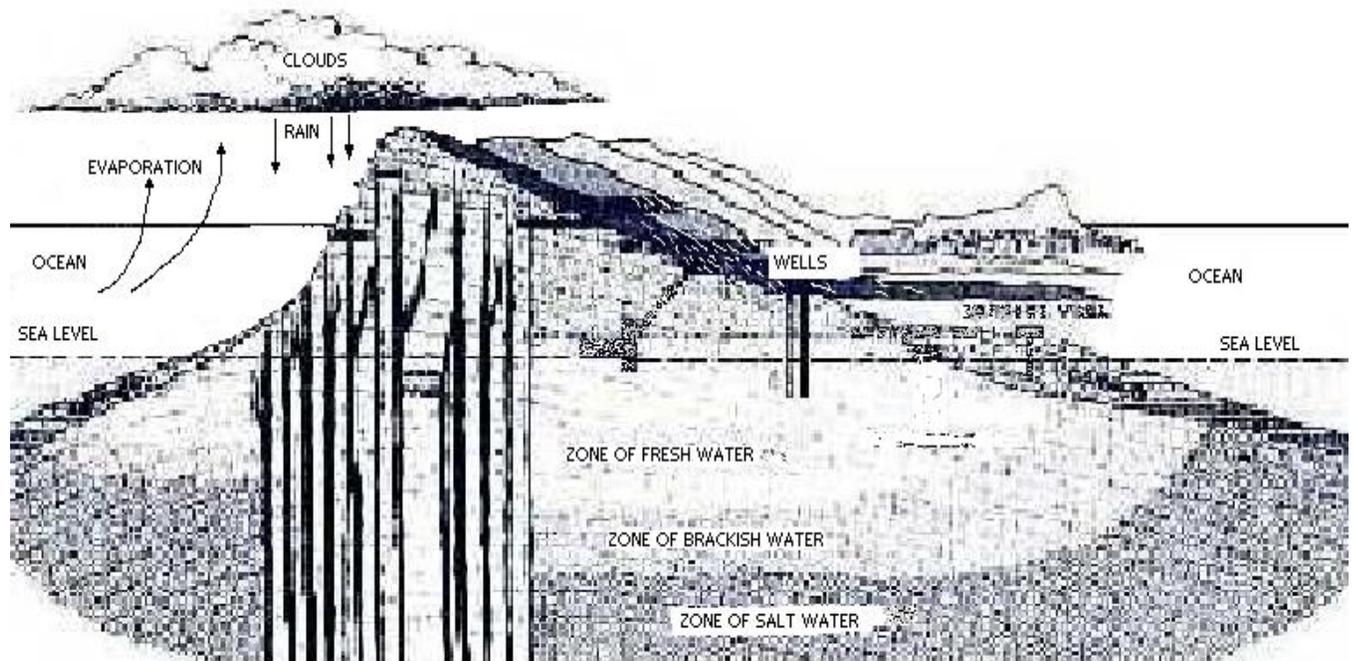
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2. Where Our Water Comes From - Water Sources and System

The source of drinking water on St. Paul is groundwater. Drinking water begins as rain falling over the Island. Because volcanic rock is porous, much of this rain is naturally filtered through the ground on its way to large underground formations called aquifers. Fresh water forms a lens on top of the salt water within the Island's core. The depth of the fresh water lens is about 40 times that of its height above sea level. The water level at the top of the aquifer in the City drinking water wells ranges from 4 to 4½ feet above sea level as it fluctuates with seasonal runoff. The bottom of the water aquifer has not been found but is estimated to be about 100 feet below sea level.

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals. Also, it can pick up substances resulting from the presence of animals or from human activity and development.



Domestic water for the community of Saint Paul is obtained from seven domestic water wells. These wells are located between Telegraph Hill and Kaminista Ridge. The “North” and “South” wells are located on the northeast slope of Telegraph Hill. The remaining five wells, named “Fredreka #1” through “Fredreka #5”, are located along the base of Kaminista Ridge. Wells extend down to approximately 4 feet below sea level to tap into the aquifer.

The City operates six of the seven water wells on a rotating basis to deliver an average of 328 thousand gallons of water per day to the community and processors. Water is pumped from the water wells through a treatment facility, where chlorine and fluoride are injected into the water, then to water storage tanks on top of Village Hill. Water flows by gravity from the water storage tanks through water mains to individual homes and buildings.

3. Glossary of Terminology

The following glossary of terminology is provided to help you better understand the report.

Action Level -- The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

ADEC -- Alaska Department of Environmental Conservation. The State agency charged with protecting human health and safeguarding the natural environment (air, water, and soil) from harmful pollution.

CCR -- Consumer Confidence Report. An annual report prepared by community water systems for their customers with information about the quality of their drinking water. Required by Federal water regulations that took effect September 1998.

CFU -- Colony Forming Units. A measurement used to count the number of bacteria colonies found in water.

Distribution System -- The network of water mains and pipelines which carry water from the source to the user's tap or faucet.

EPA -- Environmental Protection Agency. The Federal agency charged with protecting human health and safeguarding the natural environment (air, water, and soil) from harmful pollution.

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.

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.

NYA -- Not Yet Available. NYA will be used when the maximum contaminant level (MCL) has not been determined by federal or state agencies.

PPB -- Parts Per Billion or micrograms per liter. For example, if the measurement reads 10 ppb of a contaminant, there would be 10 parts of the substance in a billion parts of water.

PPM -- Parts Per Million or milligrams per liter.

PPT -- Parts Per Trillion or nanograms per liter.

Treatment Technique -- A required process intended to reduce the level of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Water Source -- The location where our water originates. Water is withdrawn from wells in specific areas, which is groundwater. Surface water would be a lake or a stream.

4. Drinking Water Standards and Testing

In order to ensure that tap water is safe to drink, the ADEC has regulations specific to the State of Alaska, based on EPA prescribed regulations, which limit the amount of certain contaminants in water provided by public water systems.

A contaminant is any substance that may pose a potential health concern if present in very large quantities. The highest amount allowable in drinking water is known as the Maximum Contaminant Level. This limit is the standard for safe drinking water and is set by federal and/or state health agencies.

The regulations require testing tap water for many different categories of contaminants. One category is the regulated or primary contaminants. Each has a maximum contaminant goal and maximum contaminant level. The Maximum Contaminant Level Goal (MCLG) is the level of a contaminant in drinking water that the State would like us to stay below. MCLGs allow for a margin of safety. The Maximum Contaminant Level (MCL) 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.

The regulations also have testing requirements for certain unregulated contaminants. Health agencies generally do not specify MCLs or MCLGs for unregulated contaminants. However, they may establish an action level that is the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

The rules also require testing the water in the distribution system. We test every month for coliform bacteria and annually for trihalomethanes (residual from chlorine that reacts with contaminants). We also test the taps of various consumers within every three years for lead and copper.

Each contaminant category has its own monitoring frequency established by regulation. If a contaminant is detected, then additional testing is done to determine the cause. Monitoring for certain contaminants is performed less frequently because the amount present does not change frequently. For this reason, some of the data can be more than a year old.

5. Contaminants That May be Present in Source Water

There are many contaminants that may be present in a source water. We test to make sure there are none in ours. Some of the substances tested for are:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, 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.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, fuel spills and septic systems.
- Radioactive contaminants, which can occur naturally, or be the result of oil and gas production and mining activities.

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 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals 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, or to try to lower the risk of infection, call for info from the Safe Drinking Water Hotline (previous page).

6. Detected Regulated and Unregulated Contaminants for Which Monitoring is Required

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Following is a list of substances that have been found in St. Paul's water and their possible sources. In all cases, the amounts present pose no health concern and are fully compliant with the standards.

Data in this report is from the most recent testing done in accordance with regulations and presented as required by 40CFR141.153. You'll notice that some of the data in the chart is more than one year old; the State requires the City to monitor for certain contaminants less than once a year because concentrations of these contaminants are not expected to vary significantly from year to year.

This table contains data that has to be reported in the Consumer Confidence Report.

Contaminant	Date Tested	Units	MCL	MCLG	Highest Detected Level	Is this a Violation ?	Major Contaminant Sources
Copper	12/17/13	ppm	1.300	1.300	.406 mg/l	No	Standard household plumbing
Fluoride	06/21/10	ppm	4	4	.545 mg/l	No	Additive to promote strong teeth
Lead	12/17/13	ppm	15	0	.0108 mg/l	No	Plumbing: byproduct of solder
Arsenic	04/18/12	ppb	10	10	1.85 ug/l	No	Occurs naturally in rock, soil and sediment, and water
Nitrate	04/10/13	ppm	10	10	1.65 mg/l	No	Erosion of natural deposits, runoff from quarry operations
Trihalomethanes	1/23/13	ppb	80	N/A	25.9 ug/l	No	Byproduct of chlorine disinfection
Haloacetic Acids	1/23/13	ppb	60	N/A	8.57 ug/l	No	Byproduct of chlorine disinfection
Barium	06/21/10	ppb	2000	2000	1.02 ug/l	No	Discharge of drilling wastes, erosion of natural deposits
Chromium	6/21/10	ppb	100	100	2.71 ug/l	No	Erosion of natural deposits
Selenium	6/21/10	ppb	50	50	2.93 ug/l	No	Erosion of natural deposits; discharge from mines
Nickel	6/21/10	ppb	N/A	N/A	0.779 ug/l	No	Erosion of natural deposits

Microbial contaminants, organic pesticides and turbidity: have not been tested, as we do not have surface water. It is not required for groundwater systems.

Inorganic contaminants: (The highest single measurement is reported here, unless otherwise noted.)

- Copper may occur in tap water from new, or the corrosion of, household copper plumbing systems, erosion of natural deposits, or leaching from wood preservatives.
- Fluorides occur naturally in groundwater. According to EPA, they may also come from the erosion of natural deposits or a water additive that promotes strong teeth.
- Lead may occur naturally or be picked up from household pipes as water travels through them past non lead-free solder joints.
- Arsenic is a semi-metallic element that occurs naturally in rock, soil and sediment and water. Changes to the environmental area surrounding a water source or sources including volcanic activities, landslides, earthquakes and natural rock erosion can change arsenic concentrations in a drinking water source.
- Nitrate (as nitrogen) occurs naturally in groundwater. According to EPA, nitrates may come from leaching from septic tanks, sewage, or erosion of natural deposits. Nitrate in drinking water at levels above 10 parts per million (ppm) is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall. If you are caring for an infant, always check the nitrate level (see table above – St. Paul has a low concentration).

In the past, some water samples have been near nitrate level limits that may have required treatment to remove the contaminants, if they had continued to rise. They did not. Regulations mandate that testing be done annually, to keep track of nitrate levels. According to health officials, the small amounts that appear in the water do not pose a concern. St. Paul's levels have ranged between 2.37 mg/l in 2010, down to 1.7 mg/l in 2011, and even lower in 2012.

Other contaminants/minerals tested for have been under the method detection limit, or not significant. They are: silver, aluminum, arsenic, gold, boron, barium, bismuth, calcium, cadmium, cobalt, chromium, arsenic, copper, iron, mercury, potassium, magnesium, manganese, molybdenum, sodium, nickel, phosphorous, platinum, antimony, selenium, silicon, tin, strontium, titanium, tungsten, vanadium, zinc, zirconium, phenol, chloride, polychlorinated biphenyl (PCBs), antimony, beryllium, cyanide, thallium, benzene, bromoform, carbon tetrachloride, chloroform, hexachlorobutadiene, toluene, alpha and beta activity (radioactivity, as well as over fifty other types of volatile organic chemicals (VOCs).

Note: The City continues to test for coliform on a monthly basis. Not a health threat in itself, total coliforms are used to indicate whether other potentially harmful bacteria may be present. Total coliforms are naturally present in the environment. The City missed its December sampling for coliform in 2013, however, tests in the months before and after continue to show no contamination. The DEC is aware of the missed sampling. The missing test put the City in "violation status" under State regulations, but the satisfactory results since then have returned us to compliance status.

7. Summary

Your drinking water is SAFE! Results show that our water complies with all Federal and State standards. Each year, or as otherwise required by federal and state schedules, the City tests the water wells and distribution system for more than 100 different types of contaminants. Contaminants that have been found pose no health concern and are we are fully compliant with the standards for safe drinking water.

8. Frequently Asked Questions

What is the Consumer Confidence Report (CCR)?

An annual report, required of water utilities, that provides the utilities customers with information on the quality of their drinking water. Reports are mailed each June to customers. Extra copies are available at the City Office; for a copy, call (907) 546-3152.

What kinds of information must be in the reports?

Where the water comes from. What was detected in the water. How the results compare to standards for safe drinking water. Information on likely sources of contamination. Definitions and explanation of terms used in the regulation of drinking water. Where to go for more information.

Where can I go for more information or to ask questions?

Contact the City of Saint Paul by:

Phone: (907) 546-3110 or 546-3152

Fax: (907) 546-3188

E-mail: phyllis@stpaulak.com

Or write to:

City of Saint Paul

P.O. Box 901

St. Paul Island, AK 99660

When requesting information, please provide your full name, address of service location, mailing address (if different from the service address) and daytime telephone number.

I don't like the taste / smell / appearance of my tap water. What is wrong with it?

Even when water meets EPA's standards, you may still object to its taste, smell, or appearance. EPA sets secondary standards based on these aesthetic characteristics (not health affects) which water systems and states can choose to adopt. Common complaints about water aesthetics include temporary cloudiness (caused by air bubbles) or chlorine taste (which can be improved by letting the water stand exposed to the air). Periodic cleaning or replacement of your faucet screen may help. The type of pipes that you have in your home may also affect the taste of your water.

Should I use bottled water or install a home filter?

If public tap water were ever contaminated, bottle or filtered water is probably a good temporary solution and may be recommended. On an ongoing basis, however, we can't tell you whether

bottled water, filtered water, other home treatment devices, are any better than local tap water. Here are some things to keep in mind:

Bottled water: Bottled water, like distilled water, is regulated by the Food and Drug Administration. Although bottled water is generally of good quality, concerns have been raised by environmental and government advisory groups about the level of oversight that bottled water receives. Even bottled water that is covered by FDA's regulations does not have to conform to the same standards as public tap water. If you buy bottled water on a routine basis and are interested in knowing more, you can ask the manufacturer for testing data.

Note: Bottled water is discouraged by those to seek to protect the environment through less waste and/or less petroleum products being created/sold. The economic benefits of utilizing a reusable water bottle are great. There are a variety of sizes, designs, and materials to choose from. Please consider this when buying a case of bottled water!

Home Filters: Home filters are used by some people who want added protection from contaminants. These units use activated carbon filters, which pick up organic contaminants and related matter that cause taste and odor problems. Depending on their design, some units can remove chlorination by-products, some cleaning solvents, and other contaminants. Since no single filter takes out every kind of drinking water contaminant, it is important to first determine what contaminants are likely to occur in your water and then match the water filter to the contaminants you wish to eliminate. Many people use home filters to prepare water for their reusable water bottle, keeping it in the refrigerator for easy access and promoting its use.

Can I assume that those contaminants detected are the only ones found?

Yes. If a contaminant is not listed, then it was not found.

Why does my report always look the same every year?

The City is required to send an annual report to all customers of the water utility. Requirements of what is to be *in* the report do not change. Attempts to streamline the report have been discouraged; the State of Alaska and other health providers *love* our comprehensive report!

9. Local Water News

Good news – the 2012 fire in the Anderson Building that helped show the need for more water storage in town has been scheduled for funding requests to the State and other agencies. A water storage tank is being designed out near the well sites, which will not only provide the needed storage for the town, but will improve service to the airport and National Weather Service.

The City Manager is promoting training of the City work force, and in doing so, has been advertising for and receiving applications for candidates to attend workshops and training sessions – for water, electric and organization skills.

Bad news – as mentioned last year, the auditors for the City pointed out to Administration the deficit in the water department. The State of Alaska Rural Utilities Business Assessment representative also pointed out the deficit. Lack of action on the City's part to reduce that deficit could seriously impact the City's ability to apply for (and receive funding for) water and sewer grants for project upgrades. Hence, the City Manager has retained a firm to examine the rate for water and sewer (as well as other utilities). The results of that study are due this fall, and City Council will be required to take action at that time.

And as *another* reminder (*again*), summer is a good time to do any annual maintenance to help prevent winter freeze-ups in water lines. If needed, add ground cover to shallow lines, and/or some other type of insulation. Remember, the service lines from the main to your home are *your* responsibility – avoid an expensive work order by planning ahead.

10. Conclusion

All of our water contains naturally-occurring substances that are not harmful. Although some of our wells have been found to contain chemical contaminants, they are at a level that poses no known human health risk.

Water is vital to our survival; we can't live without it. While many of us don't drink as much as we should, we probably consume more than we realize – water is a basic ingredient in most of the other liquids we drink. Water is also important to our hygiene; we use it to bathe, brush our teeth, launder our clothes and clean our homes. It is a natural resource that we often take for granted.

Unfortunately, our water supply is not limitless; unless used wisely, it can be depleted. And while we need it to sustain life, if contaminated, water can make us seriously ill. As your water service provider, it is our job to help ensure that the community has enough water to meet its needs, and to protect the water supply from pollutants. To do our job effectively, we need the help of you – the consumer. This report shows you how we can work together to make certain that our water supply remains healthy and in adequate supply for many years to come.

Nature does an excellent job in providing us with abundant drinking water. However, nature needs our active participation in order to maintain its clarity and purity. Protecting our water resources begins with protecting our environment. Practice water preservation habits. Dispose of wastes properly. Keep St. Paul Island clean "inside and out"!

*The City of Saint Paul Municipal Water Utility
Working for the health, safety and well-being of our community.
Working for YOU!*