

Annual
WATER
QUALITY
REPORT

Reporting Year 2012



Presented By _____
City of Port Jervis

PWS ID#: 3503554

There When You Need Us

We are once again proud to present our annual water quality report, covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

System Improvements

- Removed and cleaned ozone generator shells.
- Repaired spillway walls at Reservoir #1.
- Replaced chemical feed pumps.
- In 2013 the City plans to R&R the raw water pumps at the filtration plant.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

This assessment found no noteworthy risks to source water quality. It should be noted that reservoirs, in general, are highly sensitive to phosphorus and microbial contaminants.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us as noted in this report.

Water Treatment Process

The water entering the Port Jarvis Water Filtration Plant is treated with aluminum chlorhydroxide and, on occasion, polymer for coagulation of particulates and organic matter in the water. The water is then treated with ozone for oxidation and disinfection, removal of inorganics, destruction of microorganisms and protozoa, along with removal of taste, odor, and color. Filtration is the next step in the process, which removes the remaining particulate and organic matter. Upon leaving the filters, sodium hydroxide is added for pH adjustment, sodium hypochlorite for disinfection within the distribution system, and orthophosphate to form cathodic film inside the pipes for corrosion control.

Water Source

The water supply for the City of Port Jarvis is obtained from a watershed of approximately 3,000 acres, with the lower 2,000 acres owned by the City. Within this watershed are three interconnected reservoirs. Reservoir #1 has a storage capacity of 71 million gallons, a surface area of 22 acres, and is located at the head of the Water Filtration Plant on Reservoir Road. Reservoir #2 is located on Huguenot Brook in the Town of Deerpark, with a storage capacity of 209 million gallons and a surface area of 35 acres. The largest of the reservoirs is #3, located on Sparrowbush Brook, with a storage capacity of 292 million gallons and a 75-acre surface area.

Also within the watershed is a small pond, a natural tributary to Reservoir #2. A diverter in the outlet of this pond permits outflow to Reservoir #3 when desired. The drainage area above the diverter, which is a tributary to both Reservoirs #2 and #3, is 1.14 square miles. The water which is drawn from Reservoir #1 is treated with Ozone Direct Filtration at the Port Jarvis Reservoir Avenue Filtration Plant.

The Port Jarvis Water District serves a population of 8,080 within the City of Port Jarvis, through 3,300 service connections. The total amount of water produced in 2012 was 332 million gallons. The daily average of water treated and pumped into the distribution system is 910,000 gallons per day. Our highest single day was 1,200,000 gallons. The annual charge for water use is \$440.00, divided into four payments of \$110.00 every 3 months.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate, even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

QUESTIONS?

We will be happy to answer any questions you may have about Port Jervis water systems and our water quality. You can reach Chief Operator Kevin Keane by calling (845) 858-4009. We encourage public interest and participation in the decisions affecting drinking water. Regular monthly meetings of the Port Jervis Common Council are normally the second and fourth Monday of each month at 7:00pm. The meetings are held at City Hall, 14-22 Hammond Street. More information can be obtained by calling the Orange County Health Department at (845) 291-2331.

Important Health Information

Some people may be more vulnerable to disease-causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium*, Giardia, and other microbial pathogens are available from the Safe Drinking Water Hotline at (800) 426-4791.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. We are 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 (800) 426-4791 or at www.epa.gov/safewater/lead.

Substances That Could Be in Water

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 activities. Contaminants that may be present in source water include: **Microbial Contaminants; Inorganic Contaminants; Pesticides and Herbicides; Organic Chemical Contaminants; and Radioactive Contaminants.**

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. In order to ensure that tap water is safe to drink, the State and the U.S. EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the U.S. FDA's regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.



What is the typical per-day water usage?

While usage varies from community to community and person to person, on average, Americans use 183 gallons of water a day for cooking, washing, flushing, and watering purposes. The average family turns on the tap between 70 and 100 times daily. About 74% of home water usage occurs in the bathroom, about 21% in the laundry room, and about 5% in the kitchen.

Why do water pipes tend to break in winter?

Liquids generally contract when frozen and become more dense; however, the unique qualities of water cause it to expand by up to 9% when it freezes. That is why water pipes burst when temperatures reach the freezing mark.

How much water is used to create the food we eat each year?

The average American consumes 1,500 pounds of food each year; 1,000 gallons of water are required to grow and process each pound of that food. Thus, 1.5 million gallons of water is invested in the food eaten annually by just one person! This 200,000-plus cubic feet of water per person is enough to cover a football field four feet deep.

Is it okay to use hot water from the tap for cooking and drinking?

No, ALWAYS use cold water. Hot water is more likely to contain rust, copper, and lead from household plumbing and water heaters. These harmful substances can dissolve into hot water faster than they do into cold water, especially when the faucet has not been used for an extended period of time.

What type of container is best for storing water?

Consumer Reports has consistently advised that glass or BPA-free plastics such as polyethylene are the safest choices. To be on the safe side, do not use any container with markings on the recycle symbol showing 7 PC (which is the code for BPA). You could also consider using stainless steel or aluminum containers that have BPA-free liners.

How much water is used in the shower?

A 10-minute shower can take 25 to 50 gallons of water. High-flow shower heads allow a flow of 6 to 10 gallons a minute. Low-flow shower heads can cut the rate in half without reducing pressure.

Non-detected Contaminants

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include total coliform, inorganic compounds, bromate, nitrate, volatile organic compounds, copper, and radiological and synthetic organic compounds. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. All were tested for but were undetected.

Fact *or* Fiction

Water treatment began as a way to remove disease-causing agents. *(Fiction: It was only in the 1950s that scientists began to suspect that water might carry diseases. Although earlier treatment of water could make the water safer, it was mainly done merely to improve the taste, smell, or appearance of the water.)*

About half of the world's water supply is available for drinking. *(Fiction: If all the world's water were fit into a gallon jug, the fresh water available for us to use would equal only about one tablespoon.)*

Due to its unique nature, water boils at the same temperature anywhere on the planet. *(Fiction: At sea level, water boils at 212 degrees Fahrenheit, but on top of Mt. Everest, water boils at 154 degrees.)*

Water regulates the temperature of the Earth. *(Fact: As in the human body, the water in our oceans, lakes, and streams plays a major role in regulating planetary temperatures.)*

The Mississippi River is longer than the Amazon River. *(Fiction: At 3,902 miles the Mississippi River is not as long as the Amazon River, which flows for 4,000 miles.)*

Forty trillion gallons of water a day are carried in the atmosphere across the United States. *(Fact: Forty percent of the atmosphere's moisture content falls as precipitation each day.)*

Sampling Results

During the past year, in order to ensure that tap water is safe to drink, the EPA and NYS DOH prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. We treat our water according to those regulations. Port Jervis water district conducted more than 400 tests for over 100 drinking water contaminants.

Your water is tested for inorganic contaminants, synthetic organic contaminants, nitrates, lead and copper, VOCs, and total trihalomethanes. Additionally, your water is tested for coliform bacteria 10 times a month. The contaminants detected in your drinking water are included in the Table of Detected Contaminants. A supplement of results of all tests conducted are available at Port Jervis City Hall, the Port Jervis Water Filtration Plant, and the Department of Public Works Office.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	11/29/2012	2	2	0.005	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloride (ppm)	12/29/2011	250	NA	3.3	NA	No	Naturally occurring or indicative of road salt contamination
Haloacetic Acids (ppb)	09/20/2012	60	NA	9.60	NA	No	By-product of drinking water disinfection needed to kill harmful organisms
Sodium ¹ (ppm)	11/18/2011	(see footnote)	NA	4.8	NA	No	Naturally occurring; Road salt; Water softeners; Animal waste
Total Trihalomethanes [TTHMs] (ppb)	08/23/2012	80	NA	28.5	NA	No	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter
Turbidity ² (NTU)	08/20/2012	TT=< 1.0 NTU	NA	0.64	ND-0.64	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	08/20/2012	TT=95% of samples <0.3 NTU	NA	96	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	RANGE LOW-HIGH	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Lead (ppb)	10/07/2010	15	0	4.7	ND-11.6	0/20	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	DATE SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Nickel (ppb)	11/29/2012	100	NA	0.5	NA	No	Erosion of natural deposits

¹Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 ppm of sodium should not be used for drinking by people on moderately restricted sodium diets.

²Turbidity is a measure of the cloudiness of the water. It is tested because it is a good indicator of the effectiveness of the filtration system. Our highest single turbidity measurement for the year occurred as indicated in the table above. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. (Note that TT is dependent upon filtration method: conventional, 0.3 NTU; slow sand, 1.0 NTU; or diatomaceous earth filtration, 1.0 NTU.) Although the month as indicated in the Date column above was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

Definitions

90th percentile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.

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.

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.

MRDLG (Maximum Residual Disinfectant 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.