



Annual
WaterQuality
Report
Water testing performed in 2010

Presented By _____



BRUNSWICK & TOPSHAM
WATER DISTRICT

PWS ID#: 0090260

Quality First Quality

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Community Participation

We want our valued customers to be informed about their utility. Feel free to attend our monthly Board meetings held on the second Monday of each month at 5:30 p.m. at our office located at 266 River Road in Topsham. You can also get the latest information at our website; please visit it at www.btwater.org.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



How Is My Water Treated and Purified?

At all of our sources, we add sodium hypochlorite (chlorine) to protect against bacteriological contaminants and fluoride to promote dental health. We also add sodium-zinc polyphosphate to inhibit corrosion of the distribution system piping and to reduce lead and copper corrosion of internal plumbing systems. The water from the Jackson and Taylor wells is filtered to remove iron and manganese caused by erosion of natural deposits in the sand and gravel aquifer. The pH of the water from the Jordan Avenue well field is adjusted using aeration to reduce the corrosivity of the water.

Where Does My Water Come From?

Our sources of supply are all groundwater taken from various wells, as follows:

- Jackson Station, Topsham: one 24-inch-diameter well, one 18-inch-diameter well
- Jordan Avenue Station, Brunswick: 138 2.5-inch-diameter wells
- Taylor Station, Brunswick: one 24-inch-diameter well, one 18-inch-diameter well, and one 12-inch-diameter well
- Williams Station, Brunswick: one 12-inch-diameter well
- Our water distribution system includes approximately 115 miles of water main, two storage tanks, 6,800 service connections, and 1,090 private and public hydrants. In 2010, we delivered an average of approximately 1.7 million gallons of water per day to our customers.



Lead and Drinking 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. The Brunswick and Topsham Water District is responsible for providing high-quality drinking water, but we 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 www.epa.gov/safewater/lead.

Questions?

If you have any questions or comments about this report or any other aspect of our operations, please contact Alan J. Frasier, PE, General Manager, at (207) 729-9956 (phone), (207) 725-6470 (fax), or ajfrasier@btwater.org (email).



Variations, Exemptions, and Waivers

In 2008, The Brunswick and Topsham Water District applied for and was granted a full three-year waiver for water testing for certain synthetic organic compounds (SOC) at both the Jackson and the Taylor treatment facilities; the Jordan treatment facility was required to test for all regulated SOCs. This is an exemption from doing tests for insecticides, herbicides, fungicides, and certain other industrial chemicals that are regulated in drinking water. The State of Maine Drinking Water Program grants a waiver only upon determining, on a case-by-case basis, that “it will not result in an unreasonable health risk.” For any water tests that are not waived, The District is required to report in this CCR any contaminants that were detected in our water supply.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



SWAP

In 1996, amendments to the Federal Safe Drinking Water Act (SDWA) required each state to complete assessments for each public water supply source. The assessments identify and describe conditions that may threaten the quality of water available to consumers. These assessments are the focus of Maine's Source Water Assessment Program (SWAP). The State of Maine Drinking Water Program (DWP) completed its SWAP report for the Brunswick and Topsham Water District in 2003. The report was sent to municipal officials in Brunswick and Topsham. The report can be viewed by contacting the Brunswick and Topsham Water District.

The responsibility for protecting public water supply sources from contamination falls largely to the public water suppliers. But the municipal officials, not water suppliers, make land-use decisions. This means that protection of public water supplies requires a partnership between water suppliers, State and Federal regulators, local landowners, and municipalities.

Categories of risk evaluation for public water sources include well type and site geology; existing and future risk of acute contamination; and existing and future risk of chronic contamination. The following is a summary of the assessment provided by the DWP. If you have any questions or comments, feel free to contact the Brunswick and Topsham Water District.

The DWP has assessed the risk of all our water sources, based on type and geology, to be at the moderate level. The only practical means of reducing the risk is through replacement of the source. Acute contaminants, such as pathogens, nitrates, and nitrites, are those that can make people sick immediately after being consumed. The DWP has assessed all of our sources to have low risk for existing and future acute contamination. Chronic contaminants are those that pose a health risk if consumed over many years. The DWP has assessed our sources to have, on average, moderate risk for existing and future chronic contamination.



Radon

The highest radon level for our system was 587 picocuries per liter (pCi/L), taken in December of 2004. Radon is found in soil and bedrock formations and is a water-soluble, gaseous by-product of uranium decay. Most radon is released to the air moments after the tap is turned on. Only about 1 to 2 percent of the radon in the air comes from drinking water. The State of Maine currently recommends follow-up action (or treatment) for radon levels in drinking water above 20,000 pCi/L. Breathing radon released to air from tap water increases the risk of lung cancer over the course of your lifetime. If you wish to seek more information about radon, please call (800) SOS-RADON, or contact the State Drinking Water Program and request a Radon Fact Sheet.



Why do I get this report each year?

Community water system operators are required by federal law to provide their customers an annual water quality report. The report helps people make informed choices about the water they drink. It lets people know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. It also gives the system operators a chance to tell customers what it takes to deliver safe drinking water.

Why does my water sometimes look milky?

Cloudy water is most often caused by small air bubbles, not unlike the small gas bubbles one finds in carbonated beverages or beer. The best way to verify that water's cloudiness is caused by air is to fill a glass and set it on the counter. If the cause of the cloudiness is air, the water in the glass should clear from bottom to top as the tiny air bubbles rise to the surface. This type of cloudiness is most common in the winter. You can safely drink, cook with, or bathe in this water.

How much water is used during a typical shower?

The Federal Energy Policy Act set a nationwide regulation that limits showerheads to a maximum flow of 2.5 gallons per minute (GPM). Showerheads made before 1980 are rated at 5 GPM. Since the average shower is estimated to last 8.2 minutes, the old showerheads use 41 gallons of water, while the newer, low-flow showerheads use only about 21 gallons.

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 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.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables below show only those contaminants that were detected in the water. The State requires us to monitor for certain substances less often 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)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2006	15	0	1.45	NA	No	Erosion of natural deposits
Arsenic (ppb)	2008	10	0	5	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2008	2	2	0.0053	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2010	[4]	[4]	0.59	0.1–1.6	No	Water additive used to control microbes
Chromium (ppb)	2008	100	100	2.2	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Fluoride (ppm)	2010	4	4	1.25	NA	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]¹ (ppb)	2010	60	NA	26.87	16–39	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	1.5	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radon² (pCi/L)	2008	4,000	4,000	548	NA	No	Naturally occurs in some drinking water sources
TTHMs [Total Trihalomethanes]¹ (ppb)	2010	80	NA	45.4	21.1–88.8	No	By-product of drinking water disinfection

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper³ (ppm)	2008	1.3	1.3	0.57	0/38	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead³ (ppb)	2008	15	0	1	0/38	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

²The State of Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4,000 pCi/L, effective 1/1/2007. If Radon exceeds the MEG in water, treatment is recommended. It is also advisable to test indoor air for Radon. The U.S. EPA is proposing setting Federal standards for Radon in public drinking water.

³Action levels (AL) are measured at the consumer's tap. Ninety percent of the tests must be equal to or below the action level.

Definitions

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

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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).