



ANNUAL
WATER
QUALITY
REPORT

Water testing performed in 2008

Presented By:

BIDDEFORD & SACO
WATER COMPANY



PWS ID#: 0090170



Meeting the Challenge

We proudly present our annual water quality report. This edition covers all testing completed from January 1, 2008 through December 31, 2008. We dedicate ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new and better methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as people with cancer undergoing chemotherapy, people 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.

New Saco River Crossing

During 2008, we completed the installation of a new, 30-inch transmission main across the Saco River in the area just upstream from our Saco River treatment plant. The new transmission main provides both enhanced capacity and redundancy for one of the most important components of our system. We used directional drilling techniques to install the new main both to minimize impact on the environment and provide a more secure installation by locating the new main far below the river bottom.

We Now Offer Direct Payment!

We are pleased to offer a new service: The Direct Payment Plan. Now you can have your payment made automatically from your checking or savings account. There is no extra charge to become part of the program. You will still receive a bill showing the amount that you owe and when it will be withdrawn from your account, which will be at least three weeks after the billing date. If you have a question or concern about your bill, simply call us so we can discuss it with you. If you would like to take advantage of this free, new service, either send us an e-mail at info@biddefordsacowater.com, or give us a call at (207) 282-1543 and ask us to send you a blank authorization form.

Your Source of Water

The Saco River is our sole source of water. It begins as a small stream high in the White Mountains of New Hampshire and flows through about 124 miles of forest and farmland in New Hampshire and Maine before reaching our treatment plant. The Saco River watershed covers an area of roughly 1,700 square miles in central New Hampshire and southwestern Maine. We are fortunate that the Saco River is one of the cleanest major rivers in Maine and New England, due in part to the lack of any substantial industrial development along its shoreline. In fact, the majority of the Saco River in Maine has been given the cleanest rating possible for water. Demand is great for high-quality drinking water. We provide an average of more than five million gallons of water every day to a population that varies between 45,000 and 200,000 people, depending on the season. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at http://cfpub.epa.gov/surf/huc.cfm?huc_code=01060002. Additional information on the Saco River watershed and the land-use regulations that are in place for the watershed can also be obtained from the Saco River Corridor Commission's Internet site at www.srcc-maine.org or by visiting our office.

How Your Water Is Treated and Purified

The treatment process consists of a series of steps. First, raw water is drawn from the Saco River and pumped directly to a mixing tank at our treatment facility where alum, lime, and polymer are added. The addition of these chemicals causes small particles to adhere to one another, making them heavy enough to settle into a basin from which sediment is removed. After settling, chlorine and polymer are added for disinfection and turbidity removal, respectively (turbidity is a common measure of the clarity of water). The water is then filtered through layers of fine coal and silicate sand. As small, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again at this point as a precaution against any bacteria that may still be present. We continuously monitor the amount of chlorine, and always add the smallest quantity necessary to protect the safety of your water without compromising taste. Finally, lime (used to adjust the pH of the water), fluoride (used to prevent tooth decay), a corrosion inhibitor (used to protect distribution system pipes), and ammonia (used to reduce the formation of THMs, a common by-product of disinfection) are added before the water is pumped to sanitized reservoirs, water towers, and into your home or business.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community, or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world uses for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 60,000 gallons, twice the global per capita average.

To check out your own water footprint, go to www.h2oconserve.org or visit www.waterfootprint.org to see how the water footprints of other nations compare.

Source Water Assessment

A national source water assessment program was mandated by the 1996 amendments to the Safe Drinking Water Act. Once complete, the assessment program will provide an overview of all public water supply sources nationwide. In the state of Maine, the Drinking Water Program (DWP) coordinated the assessment program, which was completed in May 2003. The program identified future growth in source protection areas as the dominant risk factor threatening public water supplies. For more information, please visit the DWP's Web site at www.maine.gov/dhhs/eng/water/.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health. Also, the Maine Drinking Water Program has a Web site (www.maine.gov/dhhs/eng/water) that provides complete and current information on water issues in Maine including valuable information about our watershed. Alternatively, many specific questions can be researched just by "googling" a couple of key words relating to any problem or concern you may have. If you do not have Internet access at home, remember that all public libraries in our area offer free Internet access to library patrons.

Questions?

For more information about this report or for any questions relating to your drinking water, please call either Chris Mansfield, Deputy Manager, at (207) 282-9141 or Jerry Mansfield, the President of our company, at (207) 282-1543. Public speakers for community meetings may be arranged by calling (207) 282-9141.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. The primary sources of lead in drinking water are the materials and components associated with service lines and your home's plumbing. The Biddeford and Saco Water Company is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. Whenever your water has been sitting idle for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using the 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 at (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, possibly including radioactive material, and can pick up substances resulting from human or animal activity.

Under the Safe Drinking Water Act (SDWA), the United States Environmental Protection Agency (U.S. EPA) protects the public's health by setting national limits for hundreds of these substances in public drinking water supplies. Similarly, the United States Food and Drug Administration (FDA) regulations establish limits for these same substances in bottled water in order to provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some substances. The presence of these substances does not necessarily indicate that the water poses a health risk. 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.

Testing For Cryptosporidium

Cryptosporidium is a microbial parasite routinely found in surface waters throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal even when operated at the highest performance standards. Routine monitoring has confirmed the occasional presence of *Cryptosporidium* in our untreated source water. Unfortunately, current test methods do not allow us to determine if the organisms found during such routine monitoring tests are dead or if those same organisms might be capable of causing disease. Symptoms of infection would include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks; however, immunocompromised people would be at greater risk of developing a life-threatening illness. Although we have always found the concentration of these organisms to be well below the action level which would ultimately trigger additional treatment or any other requirements, we do encourage immunocompromised individuals to ask their doctors about appropriate precautions that could be taken to avoid infection.

What's in My Water?

We are pleased to report that during the past year, the water delivered to your home or business complied with all state and federal drinking water requirements. Each year we analyze more than 70,000 water samples for bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes, and synthetic organic contaminants. For your information, we have compiled the table below to show which substances were detected in our drinking water during 2008. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. None of the more than 120 other substances regulated by the U.S. EPA were detected in our water.

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)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2006	15	0	0.10	NA	No	Erosion of natural deposits
Barium (ppm)	2008	2	2	0.0041	NA	No	Erosion of natural deposits
Chloramines (ppm)	2008	[4]	[4]	1.11	0.05–2.08	No	Water additive used to control microbes
Fluoride (ppm)	2008	4	4	1.2	0.9–1.7	No	Erosion of natural deposits; Water additive that promotes strong teeth
Haloacetic Acids [HAA] (ppb)	2008	60	NA	24.4	ND–48.1	No	By-product of drinking water disinfection
Nitrate (ppm)	2008	10	10	0.08	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	35.6	15.1–60.7	No	By-product of drinking water chlorination
Total Coliform Bacteria (% positive samples)	2008	5% of monthly samples are positive	0	4.3	NA	No	Naturally present in the environment
Total Organic Carbon (removal ratio)	2008	TT>1.0	NA	1.6	1.4–1.7	No	Naturally present in the environment
Turbidity ¹ (NTU)	2008	TT=5.0	NA	0.06	0.02–0.48	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT=5.0	NA	100	NA	No	Soil runoff

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
Copper (ppm)	2008	1.3	1.3	0.115	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2008	15	0	7.18	1/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

IDSE SAMPLING RESULTS²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids [HAA]- IDSE Results (ppb)	2008	23.8	14.1–41.8	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]-IDSE Results (ppb)	2008	27.9	8.2–50.0	By-product of drinking water disinfection

¹Turbidity 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.

²Compliance with a recently enacted U.S. EPA regulation required us to conduct an evaluation of our distribution system to identify those locations that would be the most likely to 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. The evaluation process is known as an Initial Distribution System Evaluation (IDSE).

Definitions

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 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.

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.

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).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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