

Belfast Water District P.O. Box 506, 285 Northport Avenue Belfast, Maine 04915 2011 Water Quality Report

INTRODUCTION

This is the fourteenth annual water quality report of the Belfast Water District serving Belfast. This annual report is intended to provide you with important information about your drinking water. We know that you count on us for a safe and reliable supply of water every day, and we are dedicated to providing the highest quality of service to you at a great value. You may be interested to know that at the minimum rate, you pay only .0065 cents per gallon of water. Delivered to your home, you get 2 gallons of water for 1 cent, ten gallons for .07 cents and 100 gallons for .65 cents. You may be interested to know that this water supply has been tested for hardness 64 mg/l = 3.7 grains which is considered 'soft'.

THE CONTENTS OF THIS REPORT

The Safe Drinking Water Act mandates the State of Maine, along with the Environmental Protection Agency (EPA), to establish and enforce minimum drinking water standards. These standards set limits on certain biological, radioactive, organic and inorganic substances sometimes found in drinking water. The limits set on these standards are known as MCLs, Maximum Contaminant Levels. Two types of standards have been established. Primary Standards set achievable levels of drinking water quality to protect your health. Secondary Standards provide guidelines regarding the taste, odor, color, and other aesthetic aspects of your drinking water which do not present a health risk. Listed in this report are the results of the System's regular testing, which provides the test results for both Primary and Secondary Standards.

The 2011 testing results indicate *Belfast Water District's system* meets all state and federal requirements. No violations occurred. Water is tested for the contaminants listed on the table. The data presented in this report are from the most recent testing done in accordance with the regulations as set forth by the Safe Drinking Water Act.

WATER QUALITY

We ensure that your water is safe through regular monitoring and testing of water quality. Maine State Health and Environmental Testing Laboratory and Maine Water Testing Laboratory conduct these tests, State certified testing laboratories. This report shows a comprehensive summary of the laboratory test results for the constituents we regularly monitor in your water supply. Responsibility for maintaining water quality resides with our staff of certified water treatment plant operators, licensed by the State of Maine Department of Human Services.

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. However, 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 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 infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791). MCL's (maximum contaminant levels) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters (or about 2 quarts) of water every day at the MCL level for a lifetime to have a one in ten thousand chance of having the described health effect.

LEAD AND COPPER

The Federal Lead and Copper Rule mandates household testing for Lead and Copper. According to the rule, 90% of the samples from homes must have Lead levels less than 15 ppb and copper levels less than 1.3 ppm. 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 Belfast Water District is 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 1-800-426-4791 or http://www.epa.gov/safewater/lead.

<u>RADON</u>

The highest Radon levels for our system were 969 pCi/L, taken in June 2005. Radon is found in the soil and bedrock formations and is a water soluble, gaseous by-product of Uranium. Most Radon is released to the air, moments after turning on the tap. Only about 1-2 percent of Radon in the air comes from drinking water. The USEPA is considering setting lower standards for Radon in drinking water. The State of Maine adopted a Maximum Exposure Guideline (MEG) for Radon in drinking water at 4,000 pCi/l, effective 1/1/07. If Radon exceeds the MEG in water, treatment is recommended. The U.S. EPA is proposing setting federal standards for Radon in public drinking water. It is also advisable to test indoor air for Radon. Breathing Radon released to air from tap water increases the risk of lung cancer over the course of your lifetime. If you seek more information about Radon, please contact this office or the State Drinking Water Program and request a Radon 'Fact Sheet'.

TESTING WAIVER GRANTED

In 2011, our system was granted a "Synthetic Organics Waiver". This is a three year exemption from the monitoring/reporting requirements for pesticides, herbicides, fungicides, and other industrial chemicals. This waiver is granted due to the absence of these potential sources of contamination within a half mile radius of the water source.

WATER SUPPLY/SOURCE INFORMATION

The Belfast Water District uses ground water as its water source. There are two gravel packed wells located in the Goose River Aquifer in Swanville and Belfast. These wells have been in production since the 1950's and provide a reliable source of supply. The wells are protected by the Aquifer/Watershed Overlay District ordinance adopted by the City of Belfast in 1990. The original source of water for Belfast was the Little River located south of the city. Use of this supply was discontinued in the early 1980's. However, the utility realizes the importance of preserving this source and continues to protect and maintain the Little River as a backup source of supply.

To ensure the quality of your source water, the treatment techniques used by this water utility include chemical enhancement for corrosion control. Maintaining the proper pH and the addition of sodium hydroxide. 25% solution, which is a corrosion control chemical, to the water helps us maintain acceptable levels. This helps protect our distribution system and your home's plumbing system from the affects of lead and copper. This treatment has been so effective that our annual monitoring program for lead and copper levels has been reduced to once every three years under EPA's guidelines. Fluoride is added to prevent tooth decay. Fluoridation was authorized by referendum ballot on March 14, 1960. On January 7, 2011 the Federal Dept. of Health & Human Services (HHS) and the Federal Environmental Protection Agency (EPA) released a joint statement announcing a new scientific assessment and actions on fluoride. In this statement HHS proposed recommendation of 0.7 mg/l liter of water replaces the current recommended rate of 0.7 to 1.2 mg/l. This updated recommendation is based on recent EPA and HHS scientific assessments to balance the benefits of preventing tooth decay while limiting any unwanted health effects. The Belfast Water District has reduced the level of fluoride to an average of 0.7 in the water system in compliance with this recommendation. Also, chlorine levels are continuously monitored and controlled to insure adequate disinfection has occurred prior to delivery to you. In addition, sodium hypochlorite 12 1/2% is added to the water at a continuously monitored and controlled rate to ensure adequate disinfection of the water has occurred prior to delivery to vou.

SOURCE WATER ASSESSMENT

The sources of drinking water include rivers, lakes, ponds and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and radioactive material and can pick up substances resulting from human or animal activity. The Maine Drinking Water Program has completed assessments of all public water sources in Maine. Our wells are rated as moderate risk because they are gravel packed wells installed in a surficial aquifer. The current land use around our wells results in a low risk for bacteria and nitrates, and a low to moderate risk for long-term, chronic contaminants. Both wells are isolated from most sources of potential contamination. Land ownership and wellhead management planning indicate a low future risk for bacterial contamination and low to moderate risk for chronic contaminants. Our extensive property ownership and wellhead protection program, including a local ordinance, are important features in providing long-term protection. We will continue to work with the city to maintain and support these programs. For more information, contact the Maine Drinking Water Program at 287-2070.

WATER SYSTEM DATA

Your water supply and distribution system includes over 39 miles of water mains. The system has 1,962 services serving 4,905 customers in 2011 and provides fire protection service through 248 hydrants. In the last twelve months, we have produced and delivered over 220,394,100 gallons of water. That's an average of 603,819 gallons each day. The system also maintains 3,050,000 gallons of water in our 4 storage tanks. This storage allows us to meet peak system demand periods and maintain an adequate supply during fire fighting activities.

OTHER IMPORTANT INFORMATION

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for your understanding.

This report is only a summary of our activities during the past year. If you have any questions about your water quality, the information contained in this report, or your water service in general, please call us at our **business office at (207) 338-1200 (7:00** *AM* to 3:30 *PM) Monday thru Friday*, or by e-mail at *info@belfastwater.org*. Board of Trustees Meetings, open to the public, are typically held the second Monday of each month at 1:00 p.m. at Little River Station Office, 285 Northport Avenue. You may also direct questions to the Maine Department of Human Services Drinking Water Program at (207) 287-2070 or the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

BOARD OF TRUSTEES

Archie J. Gaul – **Chairman** Fleetwood Pride, Alton Kenney, Stephen Hall, Henry Chalmers **EMPLOYEES**

Keith Pooler – Superintendent Cynthia Clements – Administrative Assistant Tammy Morse – Office Manager <u>Plant Operations and Distribution</u> Frank Short, Foreman Harold Dyer, Donald Hahn, Jr., Patrick Richards

WE ARE AN EQUAL OPPORTUNITY EMPLOYER AND PROVIDER

	Prima	ry Drinking Wa	ater Standa	rds				Primary D	rinking Wate	er Standar	ds	
											(CONTINUED)
		D.41105					Test		DAMO5			
	DECIUTO	RANGE					Test	DECULTO	RANGE			
Parameter Clority	RESULIS	LOW-HIGH	MCL	MCLG	TTPICAL SOURCE	Parameter	Date	RESULIS	LOW-HIGH	MCL	MCLG	TTPICAL SOURCE
Turbidity (NTU) (12) (TT)	<0.6	0.05-0.10	5.0	5.0	Soil runoff	Tetrachloroethylene (PCE) (ppb)	-	NOT DETECTED		5	0	
						Toluene (ppm)		NOT DETECTED		1	1	
<u>Microbiological</u>						Total Trihalomethanes (TTHM/HAA5) (8) (ppb) 7/07	RAA	5.7		80	0	By-product of drinking water chlorination
Total Coliform bacteria (cfu) (<60 samples)	0 Positive	0 (60 tests)	1 Positive	0 Positive	Naturally present in the environment	Toxaphene (ppb)	_	NOT DETECTED		3	0	
						Trichloroethane (1,1,1-) (TCA) (ppb)		NOT DETECTED		200	200	
										-	-	
Organic Chemicals	NOT DETECTED		70	70		Trichloroethane (1,1,2-) (ppb)		NOT DETECTED		5	3	
Adipate (diethylhexyl) (ppb)	NOT DETECTED		400	400		Vinyl Chloride (ppb)		NOT DETECTED		2	0	
Alachlor (ppb)	NOT DETECTED		2	0		Xylenes (ppm)		NOT DETECTED		10	10	
Aldicarb (ppb) Aldicarb Sulfone (ppb)	NOT DETECTED		3	1		Inorganic Chemicals						
Aldicarb Sulfoxide (ppb)	NOT DETECTED		3	1		Antimony (ppb)	4/15/2008	NOT DETECTED		6	0	
Atrazine (ppb)	NOT DETECTED		3	3		Arsenic (15) (ppb)	3/15/2011	0.54		10	0	Erosion of natural deposits
Benzo (a) Pyrene (2) (ppt)	NOT DETECTED		200	0		Barium (ppm)	3/15/2011	0.0057		2	2	Erosion of natural deposits
Carbofuran (ppb)	NOT DETECTED		40	40		Beryllium (ppb)	4/15/2008	NOT DETECTED		4	4	
Carbon Tetrachloride (ppb)	NOT DETECTED		5	0		Cadmium (ppb)	4/15/2008	NOT DETECTED		5	5	Francisco of anticeal day points
Chlorobenzene (ppb)	NOT DETECTED		100	100		Copper (7) (ppm) 0 sites failed out of 20 sampled	8/16/2011	0.19		AL = 1.3	AL = 1.3	Corrosion of household plumbing systems
Dalapon (ppb)	NOT DETECTED		200	200		Cyanide(ppb)	4/15/2008	NOT DETECTED		200	200	
Di (2-ethylhexyl) adipate (ppb)	NOT DETECTED		400	0		Fluoride (6) (ppm)	1/12/2011	1.24		4	4	Erosion of natural deposits. Water additive which
												aluminium factories.
Di (2-ethylhexyl) phthalate (PAE) (ppb)	NOT DETECTED		6	0		Lead (7) (ppb) 0 sites failed out of 20 sampled	8/16/2011	9		AL = 15	0	Corrosion of household plumbing systems
Dibromochloropropane (DBCP) (2) (ppt)	NOT DETECTED		200	0		Mercury (ppb)	4/15/2008	NOT DETECTED		2	2	
Dichlorobenzene (p-) (ppb)	NOT DETECTED		/5	/5		Nitrate (ppm)	3/15/2011	0.48		10	10	from septic tanks sewerage. Erosion
												of natural deposits
Dichlorobenzene o- (Ortho-) (ppb)	NOT DETECTED		600	600		Nitrite (ppm)	3/3/2009	NOT DETECTED		1	1	
Dichloroethane (1,2-) (ppb)	NOT DETECTED		5	0		Selenium (ppb)	4/15/2008	NOT DETECTED		50	50	
Dichloroethylene (Trans-1.2-) (ppb)	NOT DETECTED		100	100		Radionuclides	4/13/2008	NOT DETECTED		2	0.5	
Dichloromethane	NOT DETECTED		5	0		Gross Alpha Screen (9) (pCi/l)	3/15/2006	1.23		15	0	Erosion of natural deposits
Dichloropropane (1,2-) (ppb)	NOT DETECTED		5	0		Radium 226/228 (Combined) (pCi/L)	5/2/2011	0.818		5	0	Erosion of natural deposits
Dinoseb (ppb) Dioxin (3) (ppg)	STATE WIDE WAIVER		30	0		Dranium (16) (ug/l) Radon Screen (10) (pCi/L)	3/15/2011 6/17/2005	1.5		4.000	0 N/A	Erosion of natural deposits
Diquat (4) (ppb)	STATE WIDE WAIVER		20	20						.,		
Endothall (4) (ppb)	NOT DETECTED		100	100		Other Crystopporidium/Ciardia (11)	_			0	0	
Ethylbenzene (ppb)	NOT DETECTED		700	700		Calcium (mg/l)	4/15/2008	23		0	0	
Ethylene Dibromide (EDB) (5) (ppt)	NOT DETECTED		50	0		Chlorine Residual (ppm)	2011	0.34	0.20-0.50	MRDL= 4.0 ppm	MRDLG=4 ppm	By-product of drinking water chlorination
Gluphosate (2) (pph)	STATE WIDE WAIVER		700	700		Secondary Drinking Water Standards						
Heptachlor (ppt)	NOT DETECTED		400	0		Chemical Parameters (ppm)		00001		Trator otan	44.40	
Heptachlor Epoxide (ppt)	NOT DETECTED		200	0		Chloride	3/15/2011	10 ppm	8-12	250	250	
Heptachlor/Heptachlor Epoxide (ppt)	NOT DETECTED		200	0		Magnesium Ecoming Agents (MBAS)	3/15/2011	3 ppm		0.5	0.5	
Hexachlorocyclopentadiene (ppb)	NOT DETECTED		50	50		Iron	4/15/2008	less than .05		0.3	0.3	
Lindane (ppt)	NOT DETECTED		200	200		Manganese	3/15/2011	0 ppm				
Methoxychior (ppb) Methyl-Tertiary-Butyl-Ether (MTBE) (13) (ppb)	NOT DETECTED		40	40		Sulfate	4/15/2008	5 ppm		250	250	
Oxamyl (Vydate) (ppb)	NOT DETECTED		200	200		Total Dissolved Solids		N/A		500	500	
Pentachlorophenol (ppb)	NOT DETECTED		1	0		Zinc	4/15/2008	0.0046	.0020046	5.0	5.0	
Polychlorinated Biphenyls (PCBs) (ppt)	NOT DETECTED		500	0		Nickel	4/15/2008	0.001 ppm				
Silvex (2,4,5-TP) (ppb)	NOT DETECTED		50	50		Physical Parameters						
Simazine (ppb)	NOT DETECTED		4	4		Color (units)	4/15/2008	less 5.0		15.0	15.0	
Definitions:	NOT DETECTED		100	100		Footnotes:	4/13/2008	7.1		0.0-0.5	0.0-0.5	
Running Annual Average (RAA): The Average of a	Il monthly or quarterly sample	es for the last year at all sam	ple locations.			(1) Asbestos - State wide waiver to testing in Maine. Only	those systems	with asbestos pipe need	tes			
Maximum Contaminant Level Goal (MCLG) establis Maximum Contaminant Level (MCL): The highest I	evel of a contaminant that is	allowed in the drinking water	r below which there is here is not the term of	o known or expected nine compliance	risk to nealth.	(2) Dibromochloropropane - State wide waiver granted to (3) Dioxin/Glyphosate - State wide waiver granted to Main	Maine					
Variance of Waiver: State or U.S. EPA permission	not to meet MCL or treatmer	nt technique under certain cor	nditions (e.g. waiver to f	iltration)		(4) Diquat/Endothall - Testing only required if potato grow	ing occurs in wa	itershed.				
Treatment Technique (TT): A required process into	ended to reduce the level of	a contaminant in drinking wat	er (e.g. turbidity).	to an annat fallann (a		(5) Ethylene Dibromide - Testing only required for ground	water systems.	State wide waiver for su	rface water systems in M	aine		
Maximum Residual Disinfectant Level (MRDL): The	highest level of a disinfectar	nt allowed in drinking water.	There is convincing evic	lence that addition of	a disinfectant is necessar	(6) Fluonde - Levels shall be maintained between 1 - 2 pp (7) Copper/Lead action levels are measured at consumer	r's tap. 90% of te	er systems that liuonda	e the water. Starting Jahr st be equal to or below ac	tion level	ed level of 0.7 ppm	will take effect.
for control of microbial contaminants.	J	J				(8) Total Trihalomethanes (TTHM/HAA5): Total Trihalom	ethanes and Ha	loacetic Acids are forme	d as a by-product of drink	ing water chlorination	. This	
Maximum Residual Disinfection Level Goal (MRDL)	G): The level of a drinking w	ater disinfectant below which	there is no known or ex	pected risk to health	. MRDLGs do not reflect	chemical reaction occurs when chlorine combines wit	h naturally occur	ring organic matter in w	ater.	Dadas & Usasium		
Concentrations: In this report, most of the quantitie	es are expressed as ppm. pp	d, ppt and pCi/L. These are a	a measure of organics. i	norganics or radiatio	n activity per a fixed	(10) Radon - The State of Maine adopted a Maximum Ex	posure Guideline	e (MEG) for Radon in dr	nking water at 4.000 nCi/l	L, effective 1/1/07		
amount of water.			- 3,-			If Radon exceeds the MEG in water, treatment is reco	ommended. It is	also advisable to test in	door air for Radon. The U	J.S. EPA i		
Parts per Million (ppm): Is the equivalent of one dr	on of chemical per eveny 10	allons		+		proposing setting federal standards for Radon in Pub	blic drinking wate	r.	et or exempt before 1000			
Parts per Billion (ppb): Is the equivalent of one dro	p of chemical per every 10.0	00 gallons.		+		(12) Turbidity - Surface waters only; 1.49 NTU for Slow S	and or AFT	waters not required to t	sat of exempt before 1999	·.	1	
Parts per Trillion (ppt): Is the equivalent of one dro	p of chemical per every 10,0	00,000 gallons.				Turbidity (continued) 0.549 NTU for Conventional o	r Direct Filtration	; 5.0 ntu for unfiltered s	Irface water systems.			
Parts per quadrillion (ppq): Is equivalent of one dro Picocurries per Liter (pCi/L): Is a measure of the ar	p or chemical per every 10,0 mount of naturally occuring r	uu,uuu,uuu,uuu,uuu gallons.		+		(13) MTBE - State of Maine MCL standard, adopted in Fe (14) MEL is "Million Fibers per Liter"	ebruary 1998					
Nephelometric Turbidity Units (NTU): Turbidity Unit	its are the measurement of c	loudiness in the water.			<u> </u>	(15) Arsenic - The U.S. EPA adopted the new MCL stand	lard in October 2	001. Water systems m	st meet this new standard	d by January 2006.		
Colony forming units: (cfu)						(16) Uranium - The U.S. EPA adopted the new MCL stan	dard of 30 ppb, i	n December 2000. Wa	er systems must meet this	s new standard by De	cember 2003.	