

Source Water Quality for Public Water Supplies in Newfoundland and Labrador Physical Parameters and Major Ions

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Serviced Area(s)	Source Name	Sample Date	Alkalinity Units	Colour TCU	Conductivity µS/cm	Hardness mg/L	pH	TDS mg/L	TSS mg/L	Turbidity NTU	Boron mg/L	Bromide mg/L	Calcium mg/L	Chloride mg/L	Fluoride mg/L	Potassium mg/L	Sodium mg/L	Sulphate mg/L
Clarenville	Clarenville, Shoal Harbour	Shoal Harbour River	Aug 05, 2024	6.90	<u>37</u>	65.0	11.00	7.10	36	0.54	LTD	LTD	3.40	12	LTD	0.320	8	2
Eastport	Eastport (+Sandy Cove)	Dug	Sep 10, 2024	17.00	LTD	120.0	22.00	6.91	68	LTD	LTD	LTD	6.50	20	LTD	0.890	13	4
Frenchman's Cove	Frenchman's Cove	Dug Well	Aug 20, 2024	30.00	<u>20</u>	180.0	12.00	6.84	99	0.24	LTD	LTD	1.60	28	LTD	0.870	17	10
Gaskiers	Gaskiers-Point La Haye - PWDU	Well	Aug 14, 2024	64.00	LTD	200.0	61.00	8.11	110	6.20	LTD	LTD	14.00	15	0.150	1.300	19	13
Glenwood	Glenwood	Gander Lake (The Outflow)	Aug 13, 2024	4.20	<u>46</u>	24.0	6.20	6.67	14	0.67	LTD	LTD	1.40	3	LTD	0.180	2	LTD
Harbour Mille-Little Harbour East	Harbour Mille, Little Harbour East (Fortune Bay)	Well	Aug 20, 2024	96.00	<u>52</u>	300.0	93.00	7.94	170	0.26	LTD	LTD	33.00	23	LTD	0.630	25	14
Harry's Harbour	Harry's Harbour	#1C Well - Northeast Well	Sep 09, 2024	79.00	LTD	370.0	51.00	8.26	200	0.15	LTD	LTD	16.00	49	LTD	0.830	53	19
Harry's Harbour	Harry's Harbour	#2 Well - Northwest Hill / Country Road	Sep 09, 2024	100.00	LTD	400.0	120.00	8.17	220	0.14	LTD	LTD	29.00	50	LTD	1.400	33	16
Harry's Harbour	Harry's Harbour	#3 Well - South Well	Sep 09, 2024	100.00	LTD	310.0	120.00	7.99	170	0.17	LTD	LTD	42.00	23	LTD	1.000	12	14
Hodge's Cove	Hodge's Cove	Drilled	Aug 12, 2024	82.00	LTD	370.0	22.00	<u>8.74</u>	200	0.42	LTD	LTD	6.70	47	0.130	0.290	64	21
Hopedale	Hopedale	American Pond	Aug 29, 2024	2.90	<u>28</u>	23.0	4.60	6.52	13	1.40	LTD	LTD	1.10	4	LTD	0.200	3	LTD
Indian Bay	Indian Bay	Indian Bay Brook	Aug 07, 2024	2.70	<u>29</u>	26.0	5.60	6.62	15	0.40	LTD	LTD	1.20	5	LTD	0.150	3	LTD
Jackson's Cove-Langdon's Cove-Silverdale	Langdon's Cove	#3 Well Langdon's Cove Well	Sep 09, 2024	130.00	LTD	320.0	67.00	8.37	180	0.23	LTD	LTD	18.00	13	0.150	2.300	42	11

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Guidelines for Canadian Drinking Water Quality																																						
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Jean de Baie																																						
Jean de Baie	#1 Well	Aug 19, 2024	48.00	LTD	170.0	57.00	7.17	94		0.52	LTD	LTD	18.00	15	0.120	0.350	11	4																				
L'Anse au Loup																																						
L'Anse au Loup	L'anse Au Loup River	Aug 14, 2024	14.00	<u>42</u>	36.0	14.00	7.29	20		0.63	LTD	LTD	3.90	2	LTD	0.160	2	LTD																				
Labrador City																																						
Labrador City	Beverly Lake	Jul 24, 2024	48.00	6	110.0	54.00	7.91	61		0.67	LTD	LTD	13.00	2	LTD	1.400	1	3																				
Mary's Harbour																																						
Mary's Harbour	St. Mary's River	Aug 14, 2024	LTD	<u>70</u>	17.0	3.30	<u>5.94</u>	10		0.74	LTD	LTD	0.74	2	LTD	0.120	2	LTD																				
Mary's Harbour - PWDU	St. Mary's River	Aug 14, 2024	LTD	<u>70</u>	17.0	3.30	<u>5.94</u>	10		0.74	LTD	LTD	0.74	2	LTD	0.120	2	LTD																				
McCallum																																						
McCallum	Drilled	Sep 25, 2024	25.00	<u>320</u>	130.0	33.00	6.58	70	4.20	LTD	LTD	10.00	19	LTD	0.520	13	4																					
Nain																																						
Nain	Trouser Lake	Aug 28, 2024	5.80	7	23.0	6.20	6.98	13		0.34	LTD	LTD	1.70	3	LTD	0.170	2	2																				
Natuashish																																						
Natuashish (Sango Bay)	Sango Brook and Wellfield	Aug 29, 2024	10.00	<u>18</u>	57.0	11.00	7.18	32		0.65	LTD	LTD	2.70	9	0.250	0.590	8	2																				
Natuashish (Sango Bay)	Sango Brook and Wellfield	Aug 29, 2024	70.00	LTD	740.0	79.00	8.37	410		0.23	0.19	LTD	13.00	200	2.100	7.900	130	30																				
Petley																																						
Petley	Drilled + Dug Reservoir	Aug 12, 2024	87.00	LTD	300.0	99.00	8.04	170	1.20	LTD	LTD	37.00	27	LTD	1.800	19	19																					
Port Rexton																																						
Port Rexton	#1 Well - Lois Long Well	Aug 19, 2024	3.70	LTD	120.0	99.00	<u>6.22</u>	67		0.16	LTD	LTD	28.00	21	0.120	0.350	13	18																				
Hunchback Hill	#3 Well - Harold Vivian's Well	Aug 19, 2024	73.00	LTD	400.0	81.00	8.04	220		0.11	LTD	LTD	24.00	69	0.740	0.480	45	22																				
Ship Cove	#5 Well - Mabel Clarke's Well	Aug 19, 2024	33.00	9	240.0	52.00	7.05	130		0.15	LTD	LTD	13.00	36	LTD	1.300	24	16																				
Ship Cove	#6 Well - Banister's Well	Aug 19, 2024	77.00	LTD	260.0	120.00	7.89	150	LTD	LTD	LTD	31.00	17	0.130	0.710	16	22																					
Champneys Arm	Champney's Arm Well	Aug 19, 2024	96.00	6	310.0	120.00	7.95	170		0.21	LTD	LTD	34.00	28	LTD	0.330	20	5																				

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Aesthetic (A) or Contaminant (C) Parameter																																					
Swift Current																																					
Swift Current (Hollelt's Point)	Drilled	Aug 12, 2024	21.00	<u>120</u>	100.0	22.00	6.84	57		4.10	LTD	LTD	5.70	15	LTD	0.620	11	LTD																			
Upper Amherst Cove																																					
Upper Amherst Cove	Drilled	Aug 19, 2024	120.00	9	370.0	140.00	8.04	210		LTD	LTD	LTD	42.00	34	LTD	0.820	19	9																			
Wabana																																					
Wabana	Scotia #1	Sep 17, 2024	120.00	15	290.0	81.00	8.18	160		0.36	LTD	LTD	22.00	18	LTD	0.830	30	2																			
Winterland																																					
Winterland	Well Field	Aug 20, 2024	90.00	LTD	340.0	110.00	7.93	190		0.13	LTD	LTD	38.00	41	1.200	0.520	21	8																			

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				15			6.5 - 8.5	500		1.0	5.0			250	1.5		200	500
				A			A	A		C	C			A	C		A	A

Source water samples are collected directly from the source such as a groundwater well, lake, pond, or stream prior to disinfection or other treatment. The source water quality is analyzed to determine the quality of water that flows into your water treatment and distribution system. The quality of this water is a direct indicator of the health of the ecosystem that makes up the natural drainage basin, well head recharge area or watershed area. Monitoring of source water quality is the most important tool to assess the impact of land use changes on source water quality, the presence of disinfection by-product (DBP) pre-cursors and to ensure the integrity of a public water supply. The values for each parameter are as reported by the lab and verified by the department.

Quality Assurance / Quality Control (QA/QC) - The department is striving to improve the quality of the data using standard QA/QC protocols. This is an evolving process which may result in minor changes to the reported data.

LTD - Less Than Detection Limit - The detection limit is the lowest concentration of a substance that can be determined using a particular test method and instrument. Detection limits vary from parameter to parameter and change from time to time due to improvements in analytical procedures and equipment.

The exceedance report for source water provides a brief discussion and interpretation of health related water quality parameters, if any, that exceed the acceptable limits as set out in the Guidelines for Canadian Drinking Water Quality (GCDWQ). This comparison is only for screening purposes since at present there are no guidelines for untreated source water. The GCDWQ applies to water at the consumers tap. However in the absence of water treatment these guidelines could be applicable to source water quality

Aesthetic (A) Parameters - Aesthetic parameters reflect substances or characteristics of drinking water that can affect its acceptance by consumers but which usually do not pose any health effects. Aesthetic exceedances are highlighted in **blue text** and underlined.

Contaminants (C) - Contaminants are substances that are known or suspected to cause adverse effects on the health of some people when present in concentrations greater than the established Maximum Acceptable Concentrations (MACs) or the Interim Maximum Acceptable Concentrations (IMACs) of the GCDWQ. Each MAC has been derived to safeguard health assuming lifelong consumption of drinking water containing the substance at that concentration. IMACs are reviewed periodically as new information becomes available. Please consult your Medical Officer of Health for additional information on the health aspects on contaminants. Contaminant exceedances are highlighted in **red text** and enclosed in a box.

The reported information is for supplies selected for sampling and may not include all public water supplies.

Contaminant and Aesthetic Exceedances

Turbidity - The maximum acceptable concentration for turbidity is 1 NTU. Turbidity refers to the water's ability to transmit light or the cloudiness of the water. Turbidity in tap water can be the result of turbid raw water and influences within the distribution system. Turbidity is usually the result of fine organic and inorganic particles which do not settle out. Increased turbidity of drinking water results in it being less aesthetically pleasing, and may interfere with the disinfection process.

Boron - The interim maximum acceptable concentration for boron in drinking water is 5.0 mg/L. Boron is widespread in the environment, occurring naturally in over 80 minerals and in the earth's crust. Levels in well water have been reported to be more variable and often higher than those in surface waters, most likely due to erosion from natural resources. High levels of this contaminant can cause adverse health effects for some people.

Fluoride - The maximum acceptable concentration for fluoride in drinking water is 1.5mg/L. The fluoride concentration in natural water varies widely as it depends on such factors as the source of the water and the geological formations present. Trace amounts of fluoride may be essential for human nutrition and the presence of small quantities leads to a reduction of dental caries. High levels of this contaminant can cause adverse health effects for some people.

Colour - An aesthetic objective of 15 true colour units (TCU) has been established for colour in drinking water. Colour in drinking water may be due to the presence of coloured organic substances or metals such as iron, manganese and copper. Highly coloured industrial wastes also contribute to colour. The presence of colour is not directly linked to health but it can be aesthetically displeasing.

pH - The acceptable range for drinking water pH is 6.5 - 8.5. The control of pH is primarily based on minimizing corrosion and encrustation in the distribution system. Tap water with low pH may accelerate the corrosion process in the distribution system, and contribute to increased levels of copper, lead and possibly other metals. Incrustation and scaling problems may become more frequent above pH 8.5

TDS - The aesthetic objective for TDS in drinking water is 500 mg/L. The term "total dissolved solids"(TDS) refers mainly to the inorganic substances that are dissolved in water. At low levels TDS contributes to the palatability of water. At high levels it may cause excessive hardness, taste, mineral deposition and corrosion.

Chloride - The aesthetic objective for chloride in drinking water is 250 mg/L. Chloride can be in water from a variety of sources, including the dissolution of salt deposits and salting of roads for ice control. No evidence has been found suggesting that ingestion of chloride is harmful to humans. However, high levels of chloride in water can impart undesirable tastes to water and beverages prepared from water.

Sodium - The aesthetic objective for sodium in drinking water is 200 mg/L. Since the body has very effective means to control levels of sodium, sodium is not an acutely toxic element in the normal range of environmental or dietary concentrations. At extremely high dosages it has adverse health effects. Sodium levels may be of interest to authorities who wish to prescribe sodium restricted diets for their patients..

Sulphate - The aesthetic objective for sulphate in drinking water is 500 mg/L. Sulphates, which occur naturally in numerous minerals, are used in the mining and pulping industries and in wood preservation. Large quantities of sulphate can result in catharsis and gastrointestinal irritation. The presence of sulphate above the aesthetic limit can result in noticeable taste. Some sensitive individuals may find the taste objectionable at lower sulphate concentrations

mg/L = milligrams per litre or parts per million

μS/cm = micro Siemens per centimeter

NTU = nephelometric turbidity units

TDS = total dissolved solids

TSS = total suspended solids

TCU = true colour units

Nitrate(ite) = Nitrate + Nitrite

DOC = dissolved organic carbon

Notes:

Guidelines for Canadian Drinking Water Quality have not been developed for all the parameters listed in this report.

pH has no units